As filed with the Securities and Exchange Commission on December 14, 2023.

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

FRACTYL HEALTH, INC.
(Exact name of registrant as specified in its charter)

Delaware	3841	27-3553477
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

17 Hartwell Avenue
Lexington, MA 02421
Telephone: (781) 902-8800
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Harith Rajagopalan, M.D., Ph.D.
Chief Executive Officer
Fractyl Health, Inc.
17 Hartwell Avenue
Lexington, MA 02421
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Approximate date of commencement of proposed sale to the public:
As soon as practicable after this Registration Statement is declared effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	**Accelerated filer**	☐
Non-accelerated filer	☒	**Smaller reporting company**	☒
		Emerging growth company	☒

If an emerging growth company, indicate by checkmark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act. ☐

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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Index to Financial Statements

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion
Preliminary Prospectus dated December 14, 2023.

PROSPECTUS

Shares

Common Stock

This is Fractyl Health, Inc.'s initial public offering. We are selling shares of our common stock.

We expect the initial public offering price to be between $ and $ per share. Currently, no public market exists for our common stock. We have applied to list our common stock on the Nasdaq Global Market ("Nasdaq") under the symbol "GUTS." The closing of this offering is conditioned upon Nasdaq's final approval of our listing application. We cannot assure you that our listing application will be approved. If our common stock is not approved for listing on Nasdaq, we will not consummate this offering.

We are an "emerging growth company" and a "smaller reporting company" under the federal securities laws and are subject to reduced public company disclosure standards. See "Prospectus Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company."

Investing in our common stock involves risks. See "Risk Factors" beginning on page 18 of this prospectus.

	Per Share	Total
Public offering price	$	$
Underwriting discounts and commissions[1]	$	$
Proceeds, before expenses, to us	$	$

(1) We refer you to "Underwriting" beginning on page 237 for additional information regarding underwriting compensation.

The underwriters may also exercise their option to purchase up to an additional shares from us, at the public offering price, less the underwriting discount, for 30 days after the date of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The shares will be ready for delivery on or about , 2024.

BofA Securities **Morgan Stanley** **Evercore ISI**

The date of this prospectus is , 2024

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Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus, any amendment or supplement to this prospectus, or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares of common stock offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

For investors outside the United States: Neither we nor the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

BASIS OF PRESENTATION

Except where the context otherwise requires or where otherwise indicated, the terms "Fractyl," "Fractyl Health," "we," "us," "our," "our company," "Company" and "our business" refer to Fractyl Health, Inc and its subsidiary.

The consolidated financial statements include the accounts of Fractyl Health, Inc. Our financial statements have been prepared in accordance with generally accepted accounting principles in the United States, or GAAP. Our fiscal year ends on December 31 of each year. References to 2022 refer to the year ended December 31, 2022. Our most recent fiscal year ended on December 31, 2022.

Certain monetary amounts, percentages and other figures included in this prospectus have been subject to rounding adjustments. Percentage amounts included in this prospectus have not in all cases been calculated on the basis of such rounded figures, but on the basis of such amounts prior to rounding. For this reason, percentage amounts in this prospectus may vary from those obtained by performing the same calculations using the figures in our consolidated financial statements included elsewhere in this prospectus. Certain other amounts that appear in this prospectus may not sum due to rounding.

TRADEMARKS AND TRADENAMES

This prospectus includes our trademarks and trade names, including, without limitation, REVITA, REJUVA and our logo, which are our property and are protected under applicable intellectual property laws. This prospectus also contains trademarks, trade names and service marks of other companies, which are the property of their respective owners. Solely for convenience, trademarks, trade names and service marks referred to in this prospectus may appear without the ®, ™ or SM symbols, but such references are not intended to indicate, in any way, that we or the applicable owner will not assert, to the fullest extent permitted under applicable law, our or its rights or the right of any applicable licensor to these trademarks, trade names and service marks. We do not intend our use or display of other parties' trademarks, trade names or service marks to imply, and such use or display should not be construed to imply, a relationship with, or endorsement or sponsorship of us by, these other parties.

INDUSTRY AND OTHER DATA

This prospectus contains industry, market and competitive position data from our own internal estimates and research as well as industry and general publications and research surveys and studies conducted by independent third parties. Industry publications, studies and surveys generally state that they have been obtained from sources believe to be reliable. Our internal data and estimates are based upon information obtained from trade and business organizations and other contacts in the markets in which we operate and our management's understanding of industry conditions. Management is responsible for the accuracy of our internal company research and believes such information is reliable and the market definitions are appropriate. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in "Risk Factors". These and other factors could cause results to differ materially from these expressed in the estimates made by the independent third parties and by us.

PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should read the entire prospectus carefully, including "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus, before making an investment decision. Some of the statements in this prospectus constitute forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements."

Overview

We are a metabolic therapeutics company focused on pioneering new approaches to the treatment of metabolic diseases, including type 2 diabetes and obesity. Despite advances in treatment over the last 50 years, type 2 diabetes, or T2D, and obesity continue to be principal and rapidly growing drivers of morbidity and mortality. According to the Centers for Disease Control and the International Diabetes Federation, approximately 100 million people in the United States have prediabetes and/or obesity, and an additional 25 million people have T2D on medical therapy. In 2022, there was an estimated $65 billion in annual pharmaceutical spending on drugs aimed at controlling glucose and body weight, all attributable to medicines requiring chronic administration, none of which modifies underlying disease progression. Highly potent drugs in the GLP-1RA class are now available to lower blood sugar, lower weight, and prevent cardiovascular mortality, but up to two-thirds of patients discontinue weekly GLP-1RA therapy within the first year, which typically leads to an immediate loss of metabolic benefit and weight rebound. We believe the unmet need has now shifted from temporary glucose lowering and weight loss strategies to approaches that can enable durable maintenance of metabolic health without daily or weekly pharmacotherapy. Our goal is to develop durable disease-modifying therapies that are designed to provide long-term maintenance of metabolic health without requiring lifetime treatment by targeting the organ-level root causes of T2D and obesity. We believe there is significant clinical and economic opportunity for new approaches to achieve a major leap forward by enabling long-term control over T2D and obesity without the burden of chronic therapies.

Emerging consensus on the role of the gut in driving human metabolic disease led our founders to design novel, differentiated disease-modifying therapies aiming to advance patient care from management into prevention and remission of underlying disease. The Revita DMR System, or Revita, our lead product candidate, is an outpatient procedural therapy designed to durably modify duodenal dysfunction, a major pathologic consequence of a high fat and high sugar diet, which can initiate T2D and obesity in humans. The duodenum regulates the human metabolic response to food intake, and modern diets drive dysfunctional hyperplasia of the duodenal mucosa. This results in alterations to physiologic signaling that affect glucose control and satiety. The Revita system is designed to enable durable and repeatable metabolic improvement via hydrothermal ablation of the dysfunctional duodenal mucosa to address duodenal pathology and consequent metabolic disease progression directly. We have observed the Revita DMR Procedure to be generally well tolerated and to have demonstrated durable blood glucose lowering and weight maintenance for two years post-procedure in controlled studies of patients with T2D who are inadequately controlled despite already taking certain ADAs and receiving lifestyle counseling. We have initiated a broad clinical program designed to evaluate Revita in multiple clinical studies across a range of patient populations from prediabetes and obesity to advanced T2D patients on long-acting insulin. We have obtained Breakthrough Device designation from the U.S. Food and Drug Administration, or the FDA, for Revita to perform hydrothermal ablation of the duodenal mucosa, or the Revita DMR Procedure, to improve glycemic control and eliminate insulin needs in T2D patients who are inadequately controlled on long-acting insulin.

We are currently enrolling our pivotal Revitalize-1 study in patients with inadequately controlled T2D despite being on up to three anti-diabetic agents, or ADAs, and daily insulin. We anticipate completing enrollment in the second quarter of 2024 and expect to report topline data in the fourth quarter of 2024. We are also planning to evaluate Revita in a clinical study, which we refer to as the Remain-1 study, for weight maintenance in patients with obesity who have lost weight on GLP-1RA therapy and wish to discontinue their GLP-1RA without weight regain.

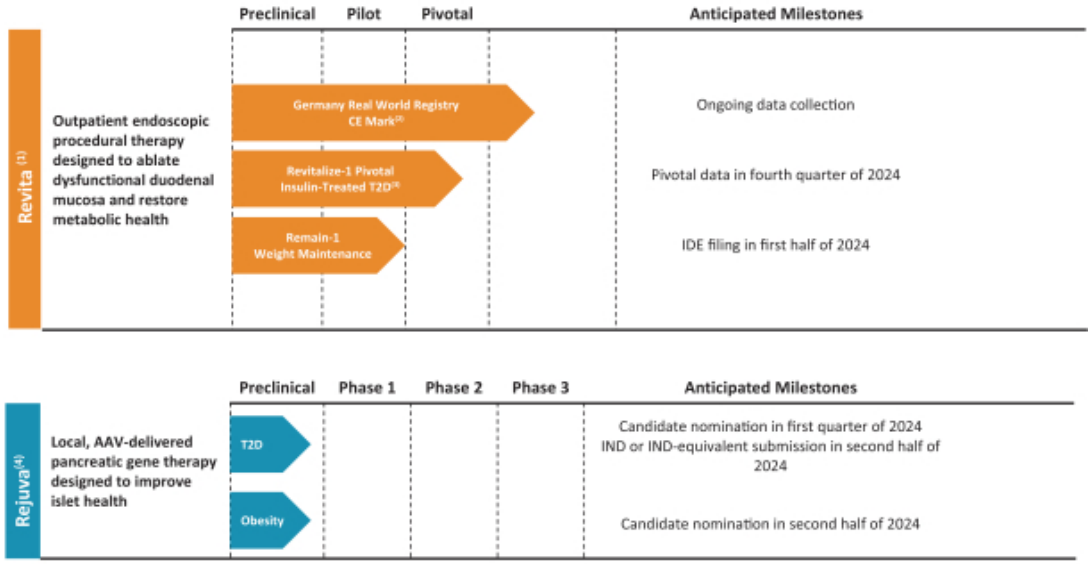
We expect to submit an IDE and comparable documents to the FDA and comparable foreign regulatory authorities or notified bodies in the first half of 2024 for a potentially pivotal Remain-1 study. Revita is already approved for patients with inadequately controlled T2D in Europe. After securing reimbursement for Revita Germany in the first half of 2023, we initiated our pilot commercial launch along with a Real World Registry study. We believe Revita has the potential to serve as a backbone therapy to prevent progression of T2D and for the prevention of weight gain, working in concert with behavioral therapies and standard of care pharmacology.

We are also developing Rejuva, a novel, locally administered, adeno-associated virus, or AAV, delivered pancreatic gene therapy, or PGTx, platform. Rejuva is designed to enable long-term remission of T2D and obesity by durably altering metabolic hormone function in the pancreatic islet cells of patients. In a preclinical head-to-head study, a glucagon-like peptide 1, or GLP-1, PGTx candidate demonstrated improvement in glycemic control, delayed T2D progression and reduction in weight compared to semaglutide (the active agent in Ozempic and Wegovy), an FDA-approved GLP-1RA. We believe these results highlight the potential benefits of metabolic treatment at the locus of disease in the pancreas. Our approach to pancreatic gene therapy is enabled by our expertise in developing proprietary delivery systems that target the gut locally and precisely. We plan to nominate our first GLP-1 PGTx candidate for T2D in the first quarter of 2024 and expect to submit an Investigational New Drug application, or IND, or IND-equivalent for our nominated candidate in the second half of 2024.

We believe Revita and Rejuva, if approved, have the potential to revolutionize treatment across the spectrum of T2D and obesity, align the clinical and economic interests of key stakeholders around the long-term regression of metabolic disease, and, at their fullest potential, significantly reduce the burden of metabolic disease globally.

Our Development Pipeline

Our development pipeline for Revita and Rejuva PGTx candidates target large market indications in T2D and obesity and aim to transform treatment from chronic symptom management to disease-modifying therapies that target the organ-level root causes of metabolic disease. The following table summarizes our development pipeline and potential clinical opportunities across the spectrum of metabolic disease, from advanced T2D on insulin to obesity and prediabetes:



(1) Revita has been granted Breakthrough Device designation for the hydrothermal ablation of the duodenal mucosa to improve glycemic control and eliminate insulin needs in T2D patients inadequately controlled on long-acting insulin; and CE mark obtained from EU and UK in 2016 for Revita for the improvement of glycemic control in patients with inadequately controlled T2D despite oral and/or injectable glucose lowering medications and/or long-acting insulin.
(2) The Germany Real World Registry study is a post-market, clinical follow-up study in real-world patients with inadequately controlled T2D on at least one ADA.
(3) The Revitalize-1 study is a pivotal study in patients with inadequately controlled T2D despite being on up to three ADAs and daily insulin.
(4) Product candidates under out Rejuva gene therapy platform will undergo Phase 1, Phase 2 and Phase 3 clinical trials. IND = Investigational New Drug Application with FDA or comparable regulatory body; IDE = Investigational Device Exemption.

Our Team

We were founded by our Chief Executive Officer, Harith Rajagopalan, M.D., Ph.D., and our President and Chief Product Officer, Jay D. Caplan, with the goal of developing innovative procedures and novel therapeutics to improve the lives of patients with metabolic diseases, initially targeting T2D. Before starting Fractyl Health, Dr. Rajagopalan was a physician scientist and cardiovascular fellow at Brigham and Women's Hospital. During his M.D./Ph.D. training at Johns Hopkins, Dr. Rajagopalan did award winning research on mechanisms of colorectal cancer formation with significant implications on cancer metabolism and published in leading scientific journals, including *Nature* and *Science*. Dr. Rajagopalan's background in intestinal biology, cardiovascular medicine and stem cell research has contributed to the founding scientific insight behind Fractyl Health: intestinal stem cell biology fundamentally helps to explain one of the root causes of obesity and metabolic disease in humans, along with the attendant health consequences, including T2D, cardiovascular disease, or CVD, and colorectal cancer. Mr. Caplan is an electrical engineer by training and an experienced life sciences executive with an extensive track record of developing transformational medical products, including at

ThermoCardio with the development of the HeartMate 2 Left Ventricular Assist Device. Our multi-disciplinary team consists of both seasoned biopharmaceutical and medical device professionals with deep industry experience. Our team brings together experts across multiple areas, including endocrinology (particularly in metabolic diseases), gastroenterology, endoscopy, engineering and medical device development. Members of our team have worked with well-regarded biopharmaceutical and medical technology companies, such as Pfizer, AbbVie and Abbott, and we are supported by a leading group of life sciences investors.

What Sets Us Apart

Our vision is to develop transformative therapies that can prevent and eliminate metabolic disease. Our culture of scientific rigor and innovation is entrenched in all aspects of our organization and informs our goal of disrupting the current, inadequate chronic care model in T2D and obesity. We are focused on developing disease-modifying therapies to treat metabolic diseases by targeting the gut and pancreas, driving widespread adoption of our novel approach, delivering on the promise of improved experience for patients and health systems, and also potentially reducing costs for the healthcare system. We believe our vision is supported by the following strengths:

- ***Pioneering New Approaches Based on Deep Understanding of Metabolic Diseases.*** We are pioneering the development of disease-modifying therapies targeting the organ level root cause of metabolic disease. Our approach builds on over a decade of our research and the accumulation of independently published, supportive clinical evidence, all implicating the gut and pancreas as validated, untapped targets in T2D and obesity. We aim to restore and preserve the health of the key organs required for metabolic fitness and reduce the burden of metabolic disease for patients.

- ***Developing Disease-Modifying Therapies that Provide Long-Term Metabolic Benefits and the Potential to Shift the Treatment Paradigm in T2D and Obesity.*** Our Revita and Rejuva programs are designed to target dysfunction in the duodenum and pancreas, respectively, to provide long-term metabolic benefits from a single administration. For this reason, Revita and Rejuva offer the potential to target T2D and obesity in a manner that we believe is not addressed with currently available therapies, including the prevention and remission of the disease. Specifically, Revita has the potential to play a significant role in preventing T2D onset and weight gain, while Rejuva has the potential to drive remission of T2D and achieve durable weight loss. We believe Revita and Rejuva's unique features can provide significantly differentiated and compelling solutions to address the large unmet need in these metabolic diseases. If approved, we believe these programs can fundamentally disrupt the chronic care model for patients with or at risk for T2D and obesity, and could offer several key advantages, including sustained clinical benefit in glucose control and weight loss and reduced long-term disease management burden for patients.

- ***Rigorous Approach to Clinical Development.*** The Revita clinical program is designed to advance the development of Revita to potentially become a backbone procedural therapy across the spectrum of T2D and obesity. To date, we have evaluated Revita in over 300 patients across multiple clinical studies and we have observed over 500 patient-years of exposure data, favorable tolerability data, as well as favorable glycemic control and weight maintenance data. Our Rejuva platform with GLP-1 PGTx candidates has been evaluated in small and large animal models, as well as *ex vivo* murine and human islets. In a head-to-head preclinical study in a *db/db* mouse model, a GLP-1 PGTx candidate demonstrated improved glucose control, prevention of T2D progression and prevention of weight again compared to semaglutide, an FDA-approved GLP-1 receptor agonist, or GLP-1RA. We plan to leverage our extensive clinical experience with Revita to inform our clinical plans with our Rejuva PGTx candidates.

- ***Aligning Interests of Key Stakeholders: Patients, Referring Physicians, Providers and Payors.*** We believe Revita and Rejuva, if approved, have the potential to offer clinical and economic

benefits while reducing the burden of disease management compared to the current standard of care in T2D and obesity. We believe both programs have the potential to broadly align interests across key stakeholders involved in the treatment of T2D and obesity, and may have the following benefits to these groups:

- *Patients.* Improving weight and glycemic control while reducing the number and burden of therapies required to adequately control T2D and obesity.
- *Referring Physicians.* Preventing weight gain and lowering HbA1c for specific patient populations with a procedural therapy that reduces the workload in disease management (i.e., rigorous patient medication, diet adherence) and improves quality metrics associated with the disease.
- *Providers.* Straightforward, easy to train outpatient procedures, which we believe could be safely deployed at scale across a large patient population. Intended to seamlessly integrate into existing endoscopist workflows and provide a new, potentially profitable service line for hospitals with a patient-friendly therapeutic option for a significant portion of their patients.
- *Payors.* Significant health economic benefits for payors who are currently struggling with the increasing expenses of T2D and obesity, driven primarily by unchecked disease progression and the lack of disease-modifying therapies.

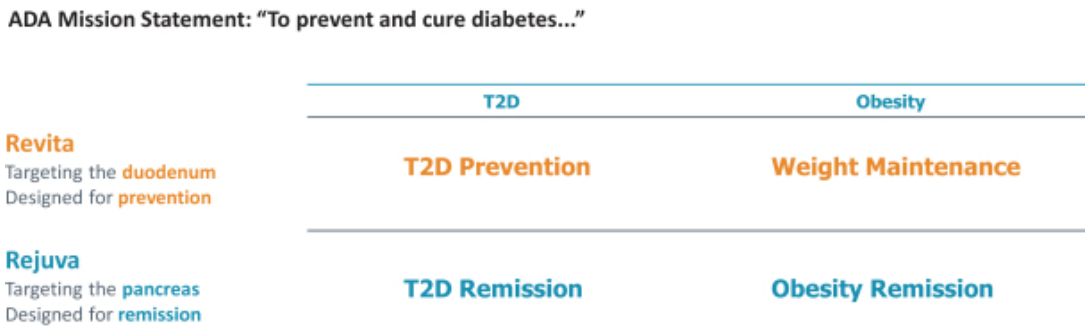
- ***Purpose-Built Leadership Team with Shared Mission to Advance Patient Care in Metabolic Disease.*** Our diverse team, combining marketing, product development and therapeutic expertise, has over 150 years of collective experience in therapeutic development. We are mission-driven to develop novel disease-modifying therapies that can potentially reverse metabolic diseases for patients and for health systems. Our team aims to continuously advance and expand upon our body of knowledge in order to establish and maintain a scientific leadership position in our therapeutic areas of focus. We do so by collaborating with expert advisors who are leaders in metabolic disease, endocrine signaling and endoscopy. As part of these ongoing efforts, we have also convened the Erase T2D Task Force, a group of academic and scientific experts in the metabolic disease space, to serve as key advisors as we develop our understanding of the role of the gut in T2D. The Erase T2D Task Force is co-chaired by our CEO, Harith Rajagopalan, M.D., Ph.D., and Alan Cherrington, Ph.D., the former President of the American Diabetes Association and the winner of its Banting Medal for Scientific Achievement. Other members of the Erase Task Force include Geltrude Mingrone, M.D., Ph.D., David D'Alessio, M.D., and Randy Seeley, Ph.D.

Our Approach

We design and develop novel, differentiated, disease-modifying therapies that precisely target and alter the function of the diseased organs responsible for T2D and obesity. Despite the development of highly potent medicines that can improve glucose control and weight, significant unmet needs remain in these diseases due to high rates of drug discontinuation over time, the loss of metabolic benefit upon drug discontinuation, and the inability of medicines to arrest the progressive nature of these conditions. Our vision is to develop transformative therapies that have the potential to prevent and eliminate metabolic diseases (as depicted in the image below).

Our product candidates have the potential to offer a major advance in healthcare because they are designed to be disease-modifying treatments that provide long-term metabolic benefits from a single administration, and are therefore potentially positioned to target the *prevention* and *remission* of disease, critically important categories in T2D and obesity treatment that cannot be addressed with current pharmacology.

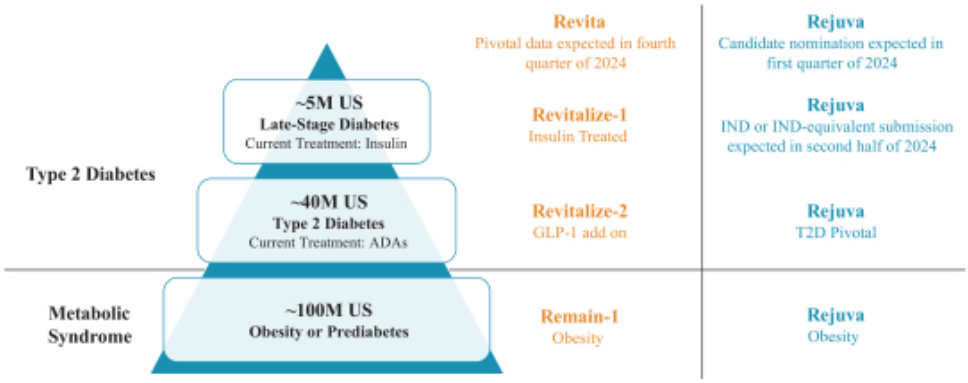
In order to be maximally impactful, these therapies must also be delivered at a scale that can match the incidence and prevalence of metabolic disease around the world. We believe our product candidates are not only unique in their potential for disease modification, but also in their design for broad accessibility for large populations. Accordingly, we believe our candidates have the capacity to revolutionize treatment of T2D and obesity and, at their fullest potential, significantly reduce the burden of metabolic disease globally.



Our Solutions

We believe there is a significant market opportunity for disease-modifying treatments that provide long-term metabolic benefits across the spectrum of T2D and obesity and we are developing a suite of product candidates that will target all phases of these diseases. Our Revita clinical development program is designed to evaluate Revita in multiple concurrent clinical studies across a range of patient populations from advanced T2D on insulin to obesity and prediabetes. We are also developing Rejuva to enable long-term remission of T2D and obesity by potentially restoring pancreatic metabolic function in patients with these diseases.

Significant Market Opportunity for One-Time Treatments Targeting Root Causes of Obesity and Type 2 Diabetes



Overview of Revita

Revita is an outpatient procedural therapy designed to durably modify duodenal dysfunction, a major pathologic consequence of a high fat high sugar diet, which can initiate T2D and obesity in humans. The duodenum is the first segment of the small intestine and the first site of nutrient absorption within the body. The duodenal mucosa regulates the human metabolic response to food intake, and chronic exposure to modern diets high in fat and sugar drive a functional maladaptation of stem cells in the duodenum and lead to dysfunctional hyperplasia of the duodenal mucosa. These diet-induced changes to the structure and function of the duodenal mucosa disrupt physiologic nutrient sensing and signaling mechanisms from the gut to the brain, with resulting alterations to systemic metabolic activity that affect glucose control and satiety through multiple downstream organ systems. Emerging scientific consensus has identified this dysfunction in the gut as a root cause of obesity and metabolic dysfunction and therefore propose targeting gut dysfunction to address downstream metabolic diseases. There are no therapies approved today that target the duodenal mucosa for regeneration and renewal.

The Revita system is designed to enable durable and repeatable metabolic improvement by targeting duodenal dysfunction with an outpatient, endoscopic procedural therapy. Revita uses heat energy to ablate the dysfunctional duodenal mucosa, including the duodenal stem cells residing at the base of the mucosa, to enable regeneration and renewal of the duodenum and restore normal metabolic signaling from the gut. The Revita procedure provides thermal protection to the duodenum before ablating the superficial mucosa by (1) isolating the mucosa from the deeper muscle layer of the duodenum and then (2) hydrothermally ablating the superficial layer of the duodenal lining with a proprietary balloon catheter and control console. The procedure takes less than 45 minutes and can be conducted in an outpatient setting in a manner that allows immediate return to daily life for patients. In the days following the ablation procedure, the duodenal mucosa regenerates, which we believe leaves the duodenal lining revitalized and better able to properly coordinate the gut's metabolic signaling mechanisms.

Revita is designed to treat patients ranging from those who have advanced T2D who have exhausted medical therapies and require insulin therapy to those with prediabetes and obesity. For people with T2D treated with medicines and insulin, Revita is intended to improve glucose control and prevent or delay further progression of their disease. For individuals with prediabetes and obesity, Revita is designed to address upstream metabolic dysfunction that puts them at risk for the progression of T2D and obesity.

Potential Benefits of Revita

We believe that Revita's unique individual features combine to provide a significantly differentiated solution to T2D and obesity, offering the following potential benefits:

- ***Durable and Repeatable Benefit.*** Revita is designed to improve metabolic health, blood glucose levels, and weight in patients with inadequately controlled T2D. Based on a long-term follow-up study of the per protocol, or PP, population in our Revita-1 study, we observed that Revita, in combination with at least one ongoing oral anti-diabetic agent, or OAD, and lifestyle counseling, had a statistically significant mean HbA1c reduction of 1.0% (n=27) and a statistically significant raw change in weight of -3.1 kg (n=25) compared to sham patients at 24 months. A pooled analysis of data collected on secondary endpoints assessing weight in all of our controlled clinical studies across the United States and Europe demonstrated a 3.4% (n=100) mean reduction in total body weight loss at four weeks in patients with T2D on multiple ADAs after undergoing a single Revita DMR Procedure and showed a sustained mean body weight loss of 4.0% (n=94) at 48 weeks. We believe this is an important and differentiated therapeutic profile in obesity management. In addition, we believe our Revita system has the potential to enable repeat Revita procedures over time.

- ***Tolerability.*** In clinical studies to date, Revita has been observed to be generally well tolerated, with most patients resuming normal daily activities one day after the procedure and none requiring

prescription pain medications. Our proprietary Revita technology is designed to provide thermal protection before ablation, enabling isolation of the mucosa from deeper tissue structures and sparing pain fibers in the muscle while reducing risk of tissue injury.

- ***Broad Implementation.*** Revita is a modular system that can potentially be incorporated into the endoscopist workflow by leveraging familiar skillsets of advanced endoscopists. Revita is intended to fit into most endoscopy suites and typically requires fewer than four cases for the endoscopist to acquire proficiency. It is designed to be an outpatient procedure that can be performed by a trained therapeutic endoscopist in less than an hour. Today, over 20,000,000 endoscopies are performed each year in the United States, including over 600,000 advanced endoscopic procedures, by nearly 10,000 gastroenterologists. The Revita DMR Procedure is designed to be a simple add-on procedure to the 4.7 million endoscopies already performed on T2D patients annually.

- ***Real World Outcomes.*** Because it is a procedural therapy, Revita does not rely on perfect patient adherence or persistence to chronic therapy for its anticipated clinical effects. Unlike diet and lifestyle interventions or pharmacologic management, the benefits of Revita are intended to be conferred at the time of the procedure and not reliant upon ongoing therapeutic maintenance. This allows a shift in patient focus from escalating chronic disease management burden to ongoing health maintenance after the procedure.

- ***Patient Friendly.*** Revita is designed to offer a straight-forward, outpatient experience requiring less than a half-day visit, and allowing patients to typically return to their normal daily lives the very next day. Furthermore, the Revita DMR Procedure has thus far been observed to be compatible with other current interventions for T2D and obesity in broad use, including diet and lifestyle, as well as existing and emerging pharmacologic therapies.

Overview of Rejuva

Rejuva is a novel, locally administered, AAV-delivered PGTx platform designed to enable long-term remission of T2D and obesity by durably altering metabolic hormone function in the pancreatic islet cells of patients with T2D and obesity. Pancreatic islets are tiny clusters of cells distributed throughout the pancreas that play a crucial role in endocrine function and glucose metabolism. There are several cell types within the pancreatic islet, including alpha cells responsible for glucagon production and beta cells responsible for insulin production. Metabolic dysfunction in obesity and prediabetes can lead to progressive beta cell dysfunction and eventual failure, loss of insulin production and secretion, and the development of T2D. There are no therapies approved today that target the pancreatic islet in T2D for repair or replacement.

Our Rejuva PGTx platform utilizes our novel investigational pancreatic delivery device to administer gene therapy candidates to target the dysfunctional pancreatic beta cells that are a root cause of insulin insufficiency in T2D. Rejuva is a modular, physiologic gene therapy platform with three key elements designed to enable successful pancreatic gene therapy: (1) a proprietary delivery catheter designed to enable local, low dose therapeutic delivery directly to the pancreas via endoscopic access, (2) vectors with tropism for the pancreatic islet to enable successful transduction and gene delivery with limited biodistribution via this route of administration, and (3) transgenes with tissue-restricted promoters and metabolically active peptides that can durably impact glucose and weight control. Rejuva is designed to directly administer a gene therapy into the body and tail of the pancreas via mechanical confinement of virus with local administration and molecular confinement of transgene expression with tissue-specific promoters. These hormones are intended to rejuvenate beta cell health and restore the body’s natural ability to produce insulin. The first gene therapy candidate for Rejuva will be a locally administered AAV9 viral vector that expresses a full-length GLP-1 hormone from the insulin promoter.

Potential Benefits of Rejuva

We believe that Rejuva's individual features combine to provide a significantly differentiated solution to T2D and obesity, offering the following potential benefits:

- ***Novel Approach to a Highly Validated Target.*** Our Rejuva platform candidates are being developed as an investigational pancreatic delivery device and local, AAV-delivered PGTx to durably improve islet health in the pancreas. Our first Rejuva PGTx candidate is intended to augment intra-islet GLP-1 receptor activation, leveraging well established biology on GLP-1 signaling and potentially leading to improved beta cell health and glucose control in patients with T2D and obesity.

- ***Precise Local Delivery*****.** Our Rejuva gene therapy platform is designed to provide precise local delivery of gene therapy to the pancreas in a single endoscopic procedure. Our Rejuva platform leverages standard-of-care techniques for pancreatic tissue access and possesses key proprietary device elements and procedure steps, thereby reducing procedural risk. We believe our Rejuva gene therapy candidates will benefit from localized administration, potentially avoiding the risk of high dose systemic administration that has been observed with other gene therapy candidates or GLP-1 receptor analogs.

- ***Preclinical Pharmacology and Toxicology Profile.*** In preclinical studies, we observed that a single administration of a GLP-1 PGTx candidate achieved durable and statistically significant improvements in blood glucose control and weight loss in *db/db* mice. In a preclinical proof-of-concept head-to-head study in a *db/db* model, after a single administration of a GLP-1 PGTx candidate, we observed (compared to chronic semaglutide at 10 nmol/kg daily):

  - statistically significant average reduction of fasting plasma glucose, or FPG, levels of 50.9% ($p < 0.0001$) at eight weeks;

  - non-statistically significant decrease in fasting insulin of 48.6% ($p=0.374$) during a glucose tolerance test at eight weeks; and

  - statistically significant decrease in total body weight of 19.6% ($p<0.0001$) at four weeks.

  Additionally, no adverse events related to the pancreas, liver or other tissues were observed in our rodent or large animal studies.

- ***Building Upon Clinical and Real-World Experience with Revita.*** The gene therapy candidates from our Rejuva platform benefit from the extensive clinical and real-world experience that we have accumulated through our Revita program. Rejuva PGTx candidates can be delivered by the same treating physicians and in the same setting as the DMR procedure, utilizing the same Revita console and leveraging the same distribution network. Moreover, we believe the metabolic benefits of Rejuva PGTx candidates have the potential to be complementary to, and perhaps synergistic with, the Revita DMR Procedure.

- ***Rigorous Development Plan.*** We anticipate nominating our first GLP-1 PGTx candidate for T2D in the first quarter of 2024 and commencing IND-enabling studies or its equivalent in the first half of 2024. In addition, we expect to submit an IND or IND-equivalent for our nominated candidate in the second half of 2024.

- ***Interchangeable Platform for Metabolic Therapy***. The Rejuva platform enables selection of multiple metabolically active peptide hormones (GLP-1, GIP, PYY, amylin, glucagon, etc.), either individually or combinatorially, with the same local delivery and plasmid construct for differential therapeutic profiles over time.

By employing Revita and Rejuva to target the prevention and remission of T2D and obesity, we believe it is possible to provide a step change in outcomes for patients above and beyond the current chronic management strategies that exist today. If we are able to obtain approval for these product candidates in the United States, we believe these therapies will enable us to chart a course towards significantly reducing the burden of T2D and obesity globally.

Growth Strategies

Our mission is to develop transformative therapies that prevent and eliminate metabolic disease. In order to achieve this goal, we plan to employ the following strategies:

- ***Establish Practice-Changing Levels of Evidence for Revita Across the Spectrum of T2D and Obesity***
- ***Develop Rejuva Gene Therapy Platform to Enable Long-Term Remission of T2D and Obesity***
- ***Execute Targeted and Efficient Go-to-Market Strategy***
- ***Broaden the Indication and Use of Revita***
- ***Expand Application of Rejuva Platform to Other Metabolic Targets Beyond GLP-1***

Summary Risk Factors

Investing in our common stock involves substantial risk. Our ability to execute our strategy is also subject to certain risks. The risks described under the heading "Risk Factors" included elsewhere in this prospectus may cause us not to realize the full benefits of our strengths or may cause us to be unable to successfully execute all or part of our strategy. Some of the most significant challenges and risks include the following:

- We have a limited operating history in developing medical devices and biopharmaceutical products, have not completed any pivotal clinical studies and have no products approved for commercial sale in the United States, which may make it difficult for you to evaluate our current business and predict our future success and viability.
- We have incurred significant net losses since inception and we expect to continue to incur significant net losses for the foreseeable future and may never achieve or sustain profitability.
- Conditions in the banking system and financial markets, including the failure of banks and financial institutions, could have an adverse effect on our operations and financial results.
- Even if this offering is successful, we will require substantial additional capital to finance our operations. If we are unable to raise such capital when needed, or on acceptable terms, we may be forced to delay, reduce and/or eliminate one or more of our research and drug development programs or future commercialization efforts.

- Our management has expressed substantial doubt about our ability to continue as a going concern.
- Our credit agreement contains restrictive and financial covenants that may limit our operating flexibility.
- The regulatory approval process of the FDA, comparable foreign regulatory authorities and notified bodies, are lengthy, time-consuming and inherently unpredictable, and even if we complete the necessary clinical studies, we cannot predict when, or if, we will obtain regulatory approval or certification for any of our product candidates, and any such regulatory approval or certification may be for a more narrow indication than we seek.
- We may not be able to file IDEs or IDE supplements or comparable documents in foreign jurisdictions to commence additional clinical studies on the timelines we expect, and even if we are able to, the FDA or comparable foreign regulatory authorities may not permit us to proceed.
- Our product candidates may cause serious adverse events or undesirable side effects or have other properties which may cause us to suspend or discontinue clinical studies, delay or prevent regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.
- We are substantially dependent on the success of our lead product candidate, Revita. If we are unable to obtain marketing approval or certification for and commercialize any of our current or future product candidates in a timely manner, our business will be harmed.
- We may not be able to gain the support of leading hospitals and key thought leaders, or to publish the results of our clinical studies in peer-reviewed journals, which may make it difficult to establish the Revita DMR Procedure and/or our Rejuva gene therapy candidates as a standard of care, if approved, and may limit our revenue growth and ability to achieve profitability.
- We have not yet studied the ability of Revita to be used in repeated procedures and we are uncertain as to whether patients will need additional procedures in the future. If we are unable to demonstrate the safety and improved glycemic effects of Revita for repeat use, it could have a material adverse effect on the on the clinical utility and commercial adoption of the device.
- We have never obtained marketing approval for a product candidate in the United States or abroad and we may be unable to obtain, or may be delayed in obtaining, marketing approval for any product candidate in the United States.
- Although Revita has received Breakthrough Device designation, there can be no guarantee that the designation will benefit the development and regulatory approval process.
- If we are unable to obtain a billing code from the U.S. Department of Health and Human Services so that procedures using Revita, if approved, are covered under Medicare and Medicaid, this could have a negative impact on our intended sales and would have a material adverse effect on our business, financial condition and operating results.
- The training required for endoscopists to use Revita could reduce the market acceptance of our products, when and if approved.

- We substantially rely, and expect to continue to rely, on third parties, including independent clinical investigators and CROs, to conduct certain aspects of our preclinical studies, and clinical studies. If these third parties do not successfully carry out their contractual duties, comply with applicable regulatory requirements or meet expected deadlines, we may not be able to obtain marketing authorization of or commercialize our product candidates and our business could be substantially harmed.

- We contract with third parties for the manufacture of sub-assembly components for Revita and for the materials for our Rejuva gene therapy platform for preclinical studies and our ongoing clinical studies, and expect to continue to do so for additional clinical studies and ultimately for commercialization. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

- We rely on a variety of intellectual property rights, and if we are unable to obtain, maintain or protect our intellectual property, our business, financial situation, results of operations, and prospects will be harmed. If we are unable to obtain and maintain patent protection for our current product candidate, any future product candidates we may develop and our technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our current product candidate, any future product candidates we may develop and our technology may be adversely affected.

Corporate History and Information

We were incorporated under the laws of the state of Delaware on August 30, 2010 under the name MedCatalyst, Inc. On January 12, 2012, we changed our name to Fractyl Laboratories Inc. On June 9, 2021, we changed our name to Fractyl Health, Inc. Our principal executive offices are located at 17 Hartwell Avenue, Lexington, Massachusetts 02421 and our telephone number is (781) 902-8800. Our principal website address is *www.fractyl.com*. The information on or accessed through our website is not incorporated in this prospectus or the registration statement of which this prospectus forms a part.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or JOBS Act. As an "emerging growth company" we may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- the option to present only two years of audited financial statements and only two years of related "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this prospectus;

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act;

- not being required to comply with any requirements that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements (i.e., an auditor discussion and analysis);

- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and

- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may take advantage of these provisions until the last day of our fiscal year following the fifth anniversary of the completion of this offering. However, if any of the following events occur prior to the end of such five-year period, (i) our annual gross revenue exceeds $1.235 billion, (ii) we issue more than $1.0 billion of non-convertible debt in any three-year period, or (iii) we become a "large accelerated filer," (as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or the Exchange Act), we will cease to be an emerging growth company prior to the end of such five-year period. We will be deemed to be a "large accelerated filer" at such time that we (a) have an aggregate worldwide market value of common equity securities held by non-affiliates of $700.0 million or more as of the last business day of our most recently completed second fiscal quarter, (b) have been required to file annual and quarterly reports under the Exchange Act, for a period of at least 12 months, and (c) have filed at least one annual report pursuant to the Exchange Act. Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company," which would allow us to take advantage of many of the same exemptions from disclosure requirements including reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests. In particular, we have elected to use the extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date we (i) are no longer an emerging growth company, or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates. If we were to subsequently elect instead to comply with these public company effective dates, such election would be irrevocable pursuant to the JOBS Act.

We are also a "smaller reporting company," meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700 million and our annual revenue was less than $100 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than $250 million or (ii) our annual revenue was less than $100 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than $700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

THE OFFERING

Common stock offered by us	shares
Option to purchase additional shares	We have granted the underwriters an option for a period of 30 days from the date of this prospectus to purchase up to additional shares of common stock.
Common stock to be outstanding immediately after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares in full)
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $ million (or approximately $ million if the underwriters exercise their option to purchase additional shares in full), based on an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds of this offering to complete the ongoing Revitalize-1 pivotal clinical study of Revita and fund the Remain-1 study; fund the continued preclinical development of our Rejuva gene therapy candidates; and for working capital and other general corporate purposes, including medical education and other commercial readiness activities. For a more complete description of our intended use of the proceeds from this offering, see "Use of Proceeds."
Risk factors	You should read the section titled "Risk Factors" beginning on page 18 and the other information included in this prospectus for a discussion of factors you should consider carefully before deciding to invest in our common stock.
Proposed Nasdaq Global Market symbol	"GUTS."

The number of shares of our common stock to be outstanding after this offering is based on shares of our common stock outstanding as of September 30, 2023, after giving effect to (i) the conversion of all outstanding shares of our convertible preferred stock into shares of our common stock immediately prior to the closing of this offering and (ii) the issuance of shares of common stock upon the automatic settlement of the our convertible promissory notes issued in January 2022, as amended, or the 2022 Convertible Notes, including accrued interest, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, in connection with the closing of this offering, and excludes:

- 19,781,902 shares of common stock issuable upon exercise of outstanding stock options granted under the Fractyl Health, Inc. Amended and Restated 2011 Incentive Stock Plan, or the 2011 Plan, as of September 30, 2023, at a weighted average exercise price of $2.30 per share;
- 87,621 shares of common stock issuable upon the vesting and settlement of outstanding restricted stock units, or RSUs, granted under the 2011 Plan, as of September 30, 2023, at a weighted average grant date fair value of $5.22 per share.

- 1,554,267 shares of common stock available for future issuance under the 2011 Plan as of September 30, 2023, which such shares will cease to be available for issuance at the time our 2024 Plan (as defined below) becomes effective;
- shares of common stock that will become available for future issuance under the 2024 Incentive Award Plan, or the 2024 Plan, which will become effective in connection with the completion of this offering, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan;
- shares of common stock that will become available for future issuance under the 2024 employee stock purchase plan, or the ESPP, which will become effective in connection with the completion of this offering, and shares of our common stock that become available pursuant to provisions in the ESPP that automatically increase the share reserve under the ESPP;
- 465,315 shares of common stock issuable upon the exercise of outstanding warrants as of September 30, 2023, at a weighted average exercise price of $1.53 per share; and
- 2,993,592 shares of common stock issuable upon the exercise of outstanding warrants issued in July and September 2023, as of September 30, 2023, at an assumed exercise price of $8.3843.

Unless we indicate otherwise or the context otherwise requires, all information in this prospectus assumes or gives effect to:

- the filing and effectiveness of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws, each of which will occur immediately prior to the closing of this offering;
- the conversion of all outstanding shares of our convertible preferred stock into 77,994,156 shares of our common stock immediately prior to the closing of this offering;
- the conversion of 118,483 outstanding warrants to purchase shares of Series B Preferred Stock into warrants to purchase 118,483 shares of common stock immediately prior to the closing of this offering;
- the conversion of 500,936 outstanding warrants to purchase shares of Series F Preferred Stock into warrants to purchase 500,936 shares of common stock immediately prior to the closing of this offering, at an assumed exercise price of $8.3843;
- a for stock split of our common stock, to be effected on , 2024;
- no exercise of the outstanding stock options or warrants described above after September 30, 2023;
- no vesting and settlement of the outstanding RSUs described above after September 30, 2023; and
- no exercise by the underwriters of their option to purchase additional shares of our common stock.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables set forth our summary consolidated financial data for the periods indicated. We have derived the summary consolidated statements of operations data for the nine months ended September 30, 2023 and 2022 and the summary consolidated balance sheet data as of September 30, 2023 from our unaudited interim consolidated financial statements included elsewhere in this prospectus. We have derived the consolidated statements of operations data for the years ended December 31, 2022 and 2021 from our audited consolidated financial statements included elsewhere in this prospectus. We have prepared the unaudited interim consolidated financial statements on a basis substantially consistent with our audited consolidated financial statements as of and for the year ended December 31, 2022, and the unaudited interim consolidated financial statements include all normal recurring adjustments necessary for a fair statement of the financial information set forth in those unaudited interim consolidated financial statements. Our historical results are not necessarily indicative of the results that should be expected for any future period. You should read the following summary consolidated financial data together with the more detailed information contained in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus. Our historical results for any prior period are not necessarily indicative of our future results, and our operating results for the nine months ended September 30, 2023 are not necessarily indicative of the results that may be expected for the year ending December 31, 2023 or any other interim periods or any future year or period.

	Nine Months Ended September 30,		Year Ended December 31,	
	2023	2022	2022	2021
	(unaudited) (in thousands, except for share and per share information)			
Consolidated Statements of Operations Data:				
Revenue	$ 113	$ —	$ —	$ —
Cost of goods sold	75	—	—	—
Gross profit	38	—	—	—
Operating expenses:				
Research and development	27,872	25,737	34,354	26,435
Selling, general and administrative	10,021	12,235	15,031	10,493
Total operating expenses	37,893	37,972	49,385	36,928
Loss from operations	(37,855)	(37,972)	(49,385)	(36,928)
Other income (expense), net	(20,056)	2,377	2,932	(1,807)
Net loss and comprehensive loss	$ (57,911)	$ (35,595)	$ (46,453)	$ (38,735)
Accretion of dividends on convertible preferred stock	(12,850)	(12,850)	(17,180)	(14,486)
Net loss attributable to common stockholders	(70,761)	(48,445)	(63,633)	(53,221)
Net loss per share attributable to common stockholders, basic and diluted	$ (15.90)	$ (11.47)	$ (14.90)	$ (13.34)
Weighted average number of common stock, basic and diluted	4,451,343	4,224,493	4,271,489	3,990,680
Pro Forma net loss per share, basic and diluted (unaudited)(1)	$		$	
Pro Forma weighted average shares of common stock outstanding, basic and diluted (unaudited)				

(1) The unaudited pro forma net loss per share for the nine months ended September 30, 2023 and for the year ended December 31, 2022 was computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of our convertible preferred stock into shares of common stock, as if such conversion had occurred at the beginning of the period, or their issuance dates, if later.

	As of September 30, 2023		
	Actual	Pro Forma[1]	Pro Forma As Adjusted[2][3]
		(unaudited, in thousands)	
Consolidated Balance Sheet Data:			
Cash and cash equivalents	$ 44,500	$	$
Working capital[4]	38,414		
Total assets	56,782		
Total liabilities	76,627		
Accumulated deficit	(327,436)		
Convertible preferred stock	287,330		
Total stockholders' equity (deficit)	(307,175)		

(1) Gives effect to (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 77,994,156 shares of common stock immediately prior to the closing of this offering, as if such conversion had occurred on September 30, 2023, (ii) the automatic settlement of the 2022 Convertible Notes, including accrued interest, into shares of our common stock in connection with the closing of this offering, assuming an initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, and (iii) an aggregate charge to accumulated deficit of $ relating to the loss resulting from the settlement of the 2022 Convertible Notes, assuming an initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus.

(2) Gives further effect to the sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity (deficit) by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A 1.0 million share increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, working capital, total assets and total stockholders' equity (deficit) by $ million, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. This information is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing.

(4) We define working capital as current assets less current liabilities. See our financial statements and the related notes included elsewhere in this prospectus for further details regarding our current assets and current liabilities.

RISK FACTORS

You should carefully consider the risks and uncertainties described below and the other information in this prospectus, including our consolidated financial statements and related notes appearing elsewhere in this prospectus and in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. Our business, financial condition, results of operations or prospects could be materially and adversely affected if any of these risks occurs, and as a result, the market price of our common stock could decline and you could lose all or part of your investment. This prospectus also contains forward-looking statements that involve risks and uncertainties. See "Cautionary Note Regarding Forward-Looking Statements." Our actual results could differ materially and adversely from those anticipated in these forward-looking statements as a result of certain factors, including those set forth below.

Risks Related to Our Financial Condition and Capital Requirements

We have a limited operating history in developing medical devices and biopharmaceutical products, have not completed any pivotal clinical studies and have no products approved for commercial sale in the United States, which may make it difficult for you to evaluate our current business and predict our future success and viability.

Medical device and biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We are an organ-editing metabolic therapeutics company with a limited operating history in developing medical devices and biopharmaceutical products, which makes it difficult to evaluate our business and prospects in future product development. We have no products approved for commercial sale in the United States and have not generated any revenue from product sales. We obtained a CE mark for Revita in Europe in 2016 and have received reimbursement authorization in Germany. To date, we have devoted substantially all of our resources and efforts to increasing our manufacturing capacity, raising capital, discovering, identifying and developing potential product candidates, securing related intellectual property rights and undertaking preclinical and clinical studies of our product candidates, including the ongoing Revitalize-1 pivotal clinical study of Revita in patients with inadequately controlled T2D despite being on up to three ADAs and 20 to 100 units of insulin daily. We have not yet demonstrated our ability to successfully complete any pivotal clinical studies, submit a Premarket Approval application, or PMA, a new drug application, or NDA, or biologic license application, or BLA, or similar marketing authorization application, manufacture a commercial-scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. As a result, it may be more difficult for you to accurately predict our future success or viability to develop new medical devices and biopharmaceutical products than it could be if we had a longer operating history.

In addition, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors and risks frequently experienced by medical device and biopharmaceutical companies developing products in rapidly evolving fields. We also may need to transition from a company with a research focus to a company capable of supporting commercial activities. If we do not adequately address these risks and difficulties or successfully make such a transition, our business will suffer.

We have incurred significant net losses since inception and we expect to continue to incur significant net losses for the foreseeable future and may never achieve or sustain profitability.

We have incurred net losses since inception, have not generated any significant revenue from product sales to date and have financed our operations primarily through the sale of our convertible preferred stock and debt financing. We have incurred a net loss of approximately $46.5 million and $38.7 million for the years ended December 31, 2022 and December 31, 2021, respectively, and a net loss of approximately $57.9 million for the nine months ended September 30, 2023. As of September 30, 2023, we had an accumulated deficit of approximately $327.4 million. Our losses have resulted principally from expenses incurred in research and

development of our product candidates, as well as management and administrative costs and other expenses that we have incurred while building our business infrastructure. Our lead product candidate, Revita, is currently undergoing a pivotal clinical study in patients with inadequately controlled T2D despite being on up to three ADAs and 20 to 100 units of insulin daily. We expect that it will be several years, if ever, before we have a commercialized product in the United States and generate significant revenue from product sales. Even if we succeed in receiving marketing approval or certification for and commercializing one or more of our product candidates, we expect that we will continue to incur substantial research and development and other expenses as we discover, develop and market additional potential product candidates.

We expect to continue to incur significant losses for the foreseeable future, and we expect these losses to increase substantially if and as we:

- advance the development of our lead product candidate, Revita, and our Rejuva gene therapy candidates through preclinical and clinical development, and, if approved or certified by the FDA, other comparable foreign regulatory authorities or notified bodies, commercialization;
- incur manufacturing costs for our product candidates;
- increase our manufacturing capacity;
- seek regulatory approvals or certifications for any of our product candidates that successfully complete clinical studies;
- increase our research and development activities to identify and develop new product candidates;
- hire additional personnel;
- expand our operational, financial and management systems;
- invest in measures to protect and expand our intellectual property;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval and intend to commercialize;
- expand our manufacturing and develop our commercialization efforts; and
- operate as a public company.

To date, we have generated insignificant revenue. To become and remain profitable, we must succeed in developing and eventually commercializing product candidates that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical and clinical studies of our product candidates, obtaining regulatory approval, and manufacturing, marketing and selling any product candidates for which we may obtain regulatory approval, as well as discovering and developing additional product candidates. We may never succeed in these activities and, even if we do, may never generate any revenue in the United States or revenue that is significant enough to achieve profitability.

The net losses we incur may fluctuate significantly from quarter to quarter such that a period-to-period comparison of our results of operations may not be a good indication of our future performance. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our working capital and our ability to achieve and maintain profitability.

Even if we achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our development efforts, obtain product approvals, diversify our offerings or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

Even if this offering is successful, we will require substantial additional capital to finance our operations. If we are unable to raise such capital when needed, or on acceptable terms, we may be forced to delay, reduce and/or eliminate one or more of our research and drug development programs or future commercialization efforts.

Developing medical devices or biopharmaceutical products, including conducting preclinical and clinical studies, is a very time-consuming, expensive and uncertain process that takes years to complete. Our operations have consumed substantial amounts of cash since inception, and we expect our expenses to increase in connection with our ongoing activities, particularly as we initiate and conduct clinical studies of, and seek marketing approval or certification for our current and any future product candidates. Even if one or more of the product candidates that we develop is approved or certified for commercial sale, we anticipate incurring significant costs associated with commercializing any approved or certified product candidate. Our expenses could increase beyond expectations if we are required by the FDA or other comparable foreign regulatory authorities or notified bodies to perform clinical studies or preclinical studies in addition to those that we currently anticipate. Other unanticipated costs may also arise. In addition, if we obtain marketing approval or certification for any of our product candidates, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing and distribution. Because the design and outcome of our anticipated clinical studies are highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of any product candidate we develop. Following this offering, we also expect to incur additional costs associated with operating as a public company. Accordingly, it is likely that we will need to obtain substantial additional funding in order to maintain our continuing operations in the future.

As of September 30, 2023, we had approximately $44.5 million in cash and cash equivalents. Based on our current business plans, we believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will be sufficient to fund our operating expenses and capital expenditures requirements through . Our estimate as to how long we expect the net proceeds from this offering, together with our existing cash and cash equivalents, to be able to continue to fund our operating expenses and capital expenditures requirements is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Changing circumstances, some of which may be beyond our control, could cause us to consume capital significantly faster than we currently anticipate, and we may need to seek additional funds sooner than planned.

Our future funding requirements will depend on many factors, including, but not limited to:

- the initiation, progress, timeline, cost and results of our clinical studies for our product candidates;
- the initiation, progress, timeline, cost and results of additional research and preclinical studies related to pipeline development and other research programs we initiate in the future;
- the cost and timing of manufacturing activities as we advance our product candidates through clinical development and commercialization;
- the potential expansion of our current development programs to seek new indications;
- the potential negative impact of future health crises, including epidemics and pandemics, on our business;
- the outcome, timing and cost of meeting regulatory requirements established by the FDA and other comparable foreign regulatory authorities or notified bodies;

- the ability of healthcare providers to obtain coverage and adequate reimbursement by third-party payors for procedures using our products, if approved (or certified), and any additional products we commercialize, as well as any future changes to coverage or reimbursement policies that may increase our competition or reduce reimbursement for procedures using our products, if approved (or certified);
- the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights, in-licensed or otherwise;
- the effect of competing technological and market developments;
- the payment of licensing fees, potential royalty payments and potential milestone payments;
- the cost of general operating expenses;
- the cost and timing of completion of commercial-scale manufacturing and product development activities;
- market acceptance of our product candidates, if cleared, approved or certified;
- the cost of establishing sales, marketing, and distribution capabilities for any product candidates for which we may receive regulatory approval or certification in regions where we choose to commercialize our products, if approved (or certified), on our own; and
- the cost of operating as a public company.

We plan to use the net proceeds from this offering to complete the ongoing Revitalize-1 pivotal clinical study of Revita and fund the Remain-1 study; fund the continued preclinical development of our Rejuva gene therapy candidates; and for working capital and other general corporate purposes, including medical education and other commercial readiness activities. Advancing the development of our product candidates will require a significant amount of capital. The net proceeds from this offering and our existing cash and cash equivalents will not be sufficient to fund all of the activities that are necessary to complete the development and commercialize our product candidates, if approved (or certified).

We will be required to obtain further funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources, which may dilute our stockholders or restrict our operating activities. Other than our credit agreement, we do not have any committed external source of funds. Adequate additional financing may not be available to us on acceptable terms, or at all. Additionally, the impact of global macroeconomic events on the capital markets may affect the availability, amount and type of financing available to us in the future. Our failure to raise capital as and when needed or on acceptable terms would have a negative impact on our financial condition and our ability to pursue our business strategy, and we may have to delay, reduce the scope of, suspend or eliminate one or more of our research-stage programs, clinical studies or future commercialization efforts.

Our management has expressed substantial doubt about our ability to continue as a going concern.

The consolidated financial statements have been prepared as though we will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. We have incurred operating losses and negative cash flows from operations since inception. As of September 30, 2023, we had an accumulated deficit of approximately $327.4 million. Management expects to continue to incur operating losses and negative cash flows from operations in 2023. We have financed our operations to date primarily through sales of our convertible preferred stock and debt financing.

If we are unable to successfully complete this offering, we will need to create alternate financing or operational plans to continue as a going concern. There can be no assurance that such alternate financing, if available, can be obtained on acceptable terms. If we are unable to obtain such alternate financing, future operations would need to be scaled back or discontinued.

Accordingly, these factors raise substantial doubt about our ability to continue as a going concern within one year after the date the consolidated financial statements are issued. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should we be unable to continue as a going concern.

Our credit agreement contains restrictive and financial covenants that may limit our operating flexibility.

Our credit agreement contains certain restrictive covenants that either limit our ability to, or require a mandatory prepayment in the event that we (i) engage in businesses other than businesses in which we are currently engaged or businesses reasonably related or complementary thereto, or (ii) subject to certain baskets and exceptions, incur additional indebtedness or liens, make certain investments, make certain payments of indebtedness, pay dividends or make any other distributions, merge with other companies or consummate certain changes of control, acquire other companies, transfer or dispose of certain assets, and enter into transactions with affiliates, among other things. We therefore may not be able to engage in any of the foregoing transactions unless we obtain the consent of all or a majority of the lenders under the credit agreement or prepay our outstanding obligations under the credit agreement. The credit agreement contains the following financial covenants: (i) a minimum liquidity covenant requiring us to maintain a minimum $10.0 million balance in cash and cash equivalents on deposit in accounts, subject to certain exceptions, and (ii) a financing milestone covenant requiring that (a) we have received proceeds from an equity financing or series of financings of at least $40.0 million during the period commencing on September 7, 2023, or the Closing Date, and ending on or prior to February 15, 2024, and (b) we have received equity financing or series of financings of at least $100.0 million (inclusive of such equity financing or series of financings in the preceding clause (a)) during the period commencing as of the Closing Date and prior to June 30, 2024. Our obligations under the credit agreement are collateralized by substantially all of our assets, including our intellectual property, but excluding certain customary and agreed upon assets. Additionally, we may not be able to generate sufficient cash flow or sales to pay the principal and interest under the credit agreement. Furthermore, our future working capital, borrowings or equity financings could be unavailable to repay or refinance the amounts outstanding under the credit agreement. In the event of a liquidation, the lenders and the agent under the credit agreement would be repaid all outstanding principal and interest prior to distribution of assets to unsecured creditors, and the holders of our common stock would receive a portion of any liquidation proceeds only if all of our creditors then existing, including the agent and lenders under the credit agreement, were first repaid in full.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our product candidates on unfavorable terms to us.

We may seek additional capital through a variety of means, including through public or private equity offerings, debt financings, including our credit agreement, or other sources, including up-front payments and milestone payments from strategic collaborations. To the extent that we raise additional capital through the sale of equity or convertible debt or equity securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. Such financing may result in dilution to stockholders, imposition of debt covenants, increased fixed payment obligations or other restrictions that may affect our business. If we raise additional funds through up-front payments or milestone payments pursuant to strategic collaborations with third parties, we may have to relinquish valuable rights to our product candidates, or grant licenses on terms that are not favorable to us. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Unfavorable global economic conditions, including any adverse macroeconomic conditions or geopolitical events, including the conflict between Ukraine and Russia, the conflict between Israel and Hamas, and recent bank failures affecting the financial services industry, have affected and could further adversely affect our business, financial condition, results of operations or liquidity, either directly or through adverse impacts on certain of the third parties on which we rely to conduct certain aspects of our preclinical studies or clinical studies.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. Global economic and business activities continue to face widespread uncertainties, and global credit and financial markets have experienced extreme volatility and disruptions in the past several years, including severely diminished liquidity and credit availability, rising inflation and monetary supply shifts, rising interest rates, labor shortages, declines in consumer confidence, declines in economic growth, increases in unemployment rates, recession risks, and uncertainty about economic and geopolitical stability. A severe or prolonged economic downturn, or additional global financial or political crises, could result in a variety of risks to our business, including delayed clinical studies or preclinical studies, delayed approval (or certification) of our product candidates, delayed ability to obtain patents and other intellectual property protection, weakened demand for our product candidates, if approved (or certified), or our ability to raise additional capital when needed on acceptable terms, if at all. The extent of the impact of these conditions on our operational and financial performance, including our ability to execute our business strategies and initiatives in the expected timeframe, as well as that of third parties upon whom we rely, will depend on future developments which are uncertain and cannot be predicted. A weak or declining economy also could strain our suppliers, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business. Furthermore, our stock price may decline due in part to the volatility of the stock market and the general economic downturn.

Actual events involving limited liquidity, defaults, non-performance or other adverse developments that affect financial institutions, transactional counterparties or other companies in the financial services industry or the financial services industry generally, or concerns or rumors about any events of these kinds or other similar risks, have in the past and may in the future lead to market-wide liquidity problems. For example, on March 10, 2023, Silicon Valley Bank was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation, or FDIC, as receiver. Similarly, on March 12, 2023, Signature Bank and Silvergate Capital Corp. were each swept into receivership, and on May 1, 2023, First Republic Bank was also swept into receivership. Although a statement by the Department of the Treasury, the Federal Reserve and the FDIC indicated that all depositors of Silicon Valley Bank would have access to all of their money after only one business day of closure, including funds held in uninsured deposit accounts, borrowers under credit agreements, letters of credit and certain other financial instruments with Silicon Valley Bank, Signature Bank or any other financial institution that is placed into receivership by the FDIC may be unable to access undrawn amounts thereunder. If any of the banks which hold our cash deposits were to be placed into receivership, we may be unable to access such funds. As of September 30, 2023, substantially all of our cash on deposit was maintained at two financial institutions in the United States, and our current deposits are in excess of federally insured limits. If further failures in financial institutions occur where we hold deposits, we could experience additional risk. Any such loss or limitation on our cash, cash equivalents and short-term investments would adversely affect our business. In addition, if any of the third parties on which we rely to conduct certain aspects of our preclinical studies or clinical trials are unable to access funds pursuant to such instruments or lending arrangements with such a financial institution, such parties' ability to fulfill their obligations to us could be adversely affected.

Our ability to utilize our net operating loss carryforwards, research and development tax credit carryforwards, and certain other tax attributes to offset taxable income or taxes may be limited.

As of December 31, 2022, we had U.S. federal and state net operating loss carryforwards of approximately $215.3 million and $207.8 million, respectively, which begin to expire at various dates beginning in 2030. Portions of these net operating loss carryforwards could expire unused and be unavailable to offset

future income tax liabilities. Under the legislation enacted in 2017, commonly referred to as the Tax Cuts and Jobs Act, or the Tax Act, as modified by the Coronavirus Aid, Relief, and Economic Security, or the CARES Act, U.S. federal net operating losses incurred in taxable years beginning after December 31, 2017, may be carried forward indefinitely, but the deductibility of such federal net operating losses in taxable years beginning after December 31, 2020, is limited. It is uncertain how various states will respond to the Tax Act and the CARES Act.

In addition, as of December 31, 2022, we had U.S. federal and state research and development tax credit carryforwards of $8.5 million and $3.6 million, respectively. The federal research and development tax credit carryforwards will expire at various dates beginning in 2031. The state research and development tax credit carryforwards will expire at various dates beginning in 2027. We may not be able to utilize these credits for federal and state income tax purposes before they expire.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50% change, by value, in its equity ownership over a three-year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. The completion of this offering, together with other transactions that have occurred since our inception, may trigger such an ownership change pursuant to Section 382. To date, we have not completed an analysis under Section 382. We may experience ownership changes as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. If an ownership change occurs and our ability to use our net operating loss carryforwards is materially limited, it would harm our future results of operations by effectively increasing our future tax obligations.

Risks Related to Development, Regulatory Approval and Commercialization

The regulatory approval process of the FDA, comparable foreign regulatory authorities and notified bodies, are lengthy, time-consuming and inherently unpredictable, and even if we complete the necessary clinical studies, we cannot predict when, or if, we will obtain regulatory approval or certification for any of our product candidates, and any such regulatory approval or certification may be for a more narrow indication than we seek.

The research, testing, manufacturing, labeling, approval, certification, selling, import, export, marketing, and distribution of medical devices and biopharmaceutical products are subject to extensive regulation by the FDA and other regulatory authorities in and outside the United States. We are currently in clinical-stage development of Revita, which is an investigational medical device, and are conducting preclinical development of our Rejuva PGTx candidates along with a device delivery system, which together with the gene therapy candidate, we anticipate will be regulated as a combination biologic-device.

In the United States, before we can market a new medical device, we must first receive either clearance under Section 510(k) of the Federal Food, Drug, and Cosmetic Act, or the FDCA, or approval of a PMA, from the FDA, unless an exemption applies. We expect Revita to be subject to the requirement for approval of a PMA. In the process of obtaining PMA approval, the FDA must determine that a proposed device is safe and effective for its intended use based, in part, on extensive data, including, but not limited to, technical, preclinical, clinical, manufacturing and labeling data. The PMA process is typically required for devices that are deemed to pose the greatest risk, such as life sustaining, life supporting or implantable devices. We plan to seek approval of a PMA from the FDA for the Revita DMR Procedure to improve glycemic control and eliminate insulin needs in T2D patients who are inadequately controlled on insulin.

Modifications to products that are approved through a PMA generally require FDA approval. Both the PMA approval and the 510(k) clearance process can be expensive, lengthy and uncertain. The process of obtaining a PMA is

costly and uncertain and generally takes from one to three years, or even longer, from the time the application is submitted to the FDA. In addition, a PMA generally requires the performance of one or more clinical studies. Despite the time, effort and cost, a device may not be approved by the FDA. Any delay or failure to obtain necessary regulatory approvals could harm our business. Furthermore, even if we are granted regulatory approvals, they may include significant limitations on the indicated uses for the device, which may limit the market for the device.

Similarly, we are not permitted to market any biological product in the United States or in foreign jurisdictions until we receive approval of a biologics license application, or BLA, from the FDA or approval of similar foreign applications from comparable foreign authorities. We anticipate that each of our Rejuva gene therapy candidates will be regulated as a biological product or biological product-device combination product, requiring approval of a BLA or a similar approval from comparable foreign authorities, and as the case may be, certification from a notified body. We have not previously submitted a BLA to the FDA, or similar approval filings to comparable foreign authorities. A BLA and similar approval filings must include extensive preclinical and clinical data and supporting information to establish the product candidate's safety and effectiveness for each desired indication. The BLA must also include significant information regarding the chemistry, manufacturing and controls for the product, including with respect to chain of identity and chain of custody of the product. Similar requirements may apply in foreign jurisdictions.

To the extent we intend to sell medical devices in member states of the European Union, or EU, our products must comply with the general safety and performance requirements of the Medical Devices Regulation, or MDR (Regulation (EU) No 2017/745), which repeals and replaces the Medical Devices Directive, or the MDD. Compliance with these requirements is a prerequisite to be able to affix the European conformity, or CE, mark to our products, without which they cannot be sold or marketed in the EU. All medical devices placed on the market in the EU must meet the general safety and performance requirements laid down in Annex I to the MDR, including the requirement that a medical device must be designed and manufactured in such a way that, during normal conditions of use, it is suitable for its intended purpose. Medical devices must be safe and effective and must not compromise the clinical condition or safety of patients, or the safety and health of users and – where applicable – other persons, provided that any risks which may be associated with their use constitute acceptable risks when weighed against the benefits to the patient and are compatible with a high level of protection of health and safety, taking into account the generally acknowledged state of the art. To demonstrate compliance with the general safety and performance requirements, we must undergo a conformity assessment procedure, which varies according to the type of medical device and its (risk) classification. Except for low risk medical devices (Class I), where the manufacturer can self-assess the conformity of its products with the general safety and performance requirements (except for any parts which relate to sterility, metrology or reuse aspects), a conformity assessment procedure requires the intervention of a notified body. Notified bodies are independent organizations designated by EU member states to assess the conformity of devices before being placed on the market. The notified body would typically audit and examine the technical file and the manufacturer's quality system (notified bodies must presume that quality systems which implement the relevant harmonized standards—ISO 13485:2016 for Quality Management Systems—conform to these requirements), design and final inspection of our devices. If satisfied that the relevant product conforms to the relevant general safety and performance requirements, the notified body issues an EU certificate, which the manufacturer uses as a basis for its own declaration of conformity. The manufacturer may then apply the CE mark to the device, which allows the device to be placed on the market throughout the EU. If we fail to comply with applicable laws and regulations, we would be unable to affix the CE mark to our products, which would prevent us from selling them within the EU. See "Government Regulations—Regulation of Medical Devices in the European Union" for more information.

The CE mark for Revita was issued under the MDD, which has now been superseded by the MDR and we are currently working on obtaining MDR certification. Under the recently extended MDR transitional provisions, both (i) devices lawfully placed on the market pursuant to the MDD prior to May 26, 2021 and (ii) legacy devices lawfully placed on the market after May 26, 2021, in accordance with the transitional provisions of the MDR, may generally continue to be made available on the market or put into service, provided that the requirements of the transitional provisions are fulfilled. In particular, no substantial change must be made to the device as such a modification would trigger the obligation to obtain a new certification under the MDR and therefore to have a notified body conducting a

new conformity assessment of the devices. Once our devices are certified under the MDR, we must inform the notified body that carried out the conformity assessment of the medical devices that we market or sell in the EU, of any planned substantial changes to our quality system or substantial changes to our medical devices that could affect compliance with the general safety and performance requirements laid down in Annex I to the MDR or cause a substantial change to the intended use for which the device has been CE marked. The notified body will then assess the planned changes and verify whether they affect the products' ongoing conformity with the MDR. If the assessment is favorable, the notified body will issue a new certificate or an addendum to the existing certificate attesting compliance with the general safety and performance requirements and quality system requirements laid down in the Annexes to the MDR. The notified body may disagree with our proposed changes and product introductions or modifications could be delayed or canceled, which could adversely affect our ability to grow our business.

The aforementioned EU rules are generally applicable in the European Economic Area, or EEA (which consists of the 27 EU member states plus Norway, Liechtenstein and Iceland). Non-compliance with the above requirements would therefore also prevent us from selling our products, if approved, in Norway, Liechtenstein and Iceland. We cannot be certain that transitioning towards the MDR will not have any material impact on our sales in the EU and EEA and, if we were considered noncompliant and unable to sell our products in the EU and EEA, it could harm our business, operating results, prospects and financial condition.

As a result of the UK leaving the EU, since January 1, 2021, the regulatory framework and regimes for medical devices in the UK and EU have diverged. Northern Ireland has adopted a hybrid approach as a result of the divergence in accordance with the Northern Ireland Protocol. Great Britain's national legislation remains based on the (EU) MDD as implemented nationally, however, amendments to the existing legislation are being drawn up by the Government, the core elements of which are expected to apply from July 1, 2025. The Medicines and Healthcare products Regulatory Agency, or MHRA, has stated that specific rules relating to post-market surveillance will be introduced in advance of the broader legislative overhaul, with such changes expected to apply from mid-2024. The MHRA has also recently confirmed that, subject to certain conditions, general medical devices compliant with the (EU) MDD or EU active implantable medical devices directive, or AIMDD, with a valid declaration and CE marking can be placed on the Great Britain market up until the sooner of expiry of certificate or June 30, 2028. The MHRA has indicated that the legislative amendments will include a requirement for newly certified devices to carry a UKCA mark.

The UKCA mark is not recognized in the EU, EEA or Northern Ireland markets, so relevant products require a CE mark for sale in these markets.

Our product candidates could fail to receive regulatory approval or certification from the FDA, a comparable foreign regulatory authority or notified body for many reasons, including:

- disagreement with the design or conduct of our clinical studies;
- failure to demonstrate to the satisfaction of regulatory agencies or notified bodies that our product candidates are safe and effective, or have a positive benefit/risk profile for its proposed indication;
- serious and unexpected adverse device effects experienced by participants in our clinical studies;
- failure of clinical studies to meet the level of statistical significance required for approval or certification;
- disagreement with our interpretation of data from preclinical or clinical studies;
- the insufficiency of data collected from clinical studies of our product candidates to support the submission and filing of a IND, PMA or BLA or other submission or to obtain regulatory approval or certification;

- failure to obtain approval of our manufacturing processes or facilities of third-party manufacturers with whom we contract for clinical and commercial supplies or our own manufacturing facility; or

- changes in the approval or certification policies or regulations that render our preclinical and clinical data insufficient for approval or certification.

This lengthy approval process as well as the unpredictability of future clinical study results may result in our failing to obtain regulatory approval or certification to market our product candidates, which would significantly harm our business, results of operations and prospects. The FDA, a comparable foreign regulatory authority or notified body may require more information, including additional preclinical or clinical data to support approval or certification, which may delay or prevent approval or certification and our commercialization plans, or we may decide to abandon the development program. If we were to obtain approval or certification, regulatory authorities or notified bodies may approve or certify any of our product candidates for fewer or more limited indications than we request (including failing to approve or certify the most commercially promising indications), may grant approval contingent on the performance of costly post-marketing clinical studies, or may approve or certify a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Even if our product candidates meet their safety and efficacy endpoints in clinical studies, the regulatory authorities or notified bodies may not complete their review processes in a timely manner, or we may not be able to obtain regulatory approval or certification.

We expect the novel nature of certain of our product candidates to create further challenges in obtaining regulatory approval or certification. The FDA may also require a panel of experts to deliberate on the adequacy of the safety and efficacy data to support approval. The opinion of the panel, although not binding, may have a significant impact on our ability to obtain approval of the product candidates based on the completed clinical studies, as the FDA often adheres to the panel's recommendations. In addition, we may experience delays or rejections based upon additional government regulation from future legislation or administrative action, or changes in regulatory authority policy during the period of product development, clinical studies and the review process. Accordingly, the regulatory approval pathway for our product candidates may be uncertain, complex, expensive and lengthy, and approval may not be obtained.

In addition, the FDA and comparable foreign regulatory authorities may change their approval policies and new regulations may be enacted. For instance, the EU pharmaceutical legislation is currently undergoing a complete review process, in the context of the Pharmaceutical Strategy for Europe initiative, launched by the European Commission in November 2020. The European Commission's proposal for revision of several legislative instruments related to medicinal products (potentially reducing the duration of regulatory data protection, revising eligibility for expedited pathways, etc.) was published on April 26, 2023. The proposed revisions remain to be agreed and adopted by the European Parliament and European Council (not expected before early 2025) and may have a significant impact on the biopharmaceutical industry in the long term.

Clinical studies are expensive, time-consuming, difficult to design and implement, and have an uncertain outcome. Further, we may encounter substantial delays in our clinical studies.

Before obtaining regulatory approvals or certification for the commercial sale of any of our product candidates, we must demonstrate through lengthy, complex and expensive preclinical and clinical studies that our product candidates are both safe and effective for use in each target indication. Clinical testing is expensive and takes many years to complete, and is subject to uncertainty. Our clinical studies may not be conducted as planned or completed on schedule, if at all. Failure can occur at any time during the clinical study process. Even if our clinical studies are completed as planned, their results may not support the safety and effectiveness of our product candidates for their targeted indications or support continued clinical development of such product candidates. Our future clinical study results may not be successful.

In addition, even if our planned studies are successfully completed, the FDA or foreign regulatory authorities or notified bodies may not interpret the results as we do, and more studies could be required before we submit our product candidates for approval or certification. To the extent that the results of the studies are not satisfactory to the FDA or foreign regulatory authorities or notified bodies for support of a marketing application or certification, we may be required to expend significant resources, which may not be available to us, to conduct additional studies in support of potential approval of our product candidates.

We may experience delays in conducting any clinical studies and we do not know whether our clinical studies will begin on time, need to be redesigned, recruit and enroll patients on time or be completed on schedule, or at all. Events that may prevent successful or timely completion of clinical development include:

- inability to generate sufficient data to support the initiation of clinical studies;
- delays in sufficiently developing, characterizing or controlling a manufacturing process suitable for advanced clinical studies;
- delays in reaching agreement with the FDA or other regulatory authorities as to the design or implementation of our clinical studies;
- delays in or failure to obtain regulatory clearance to commence a clinical study;
- delays in or failure to reach an agreement on acceptable terms with clinical study sites or prospective contract research organizations, or CROs, the terms of which can be subject to extensive negotiation and may vary significantly among different clinical study sites;
- delays in or failure to obtain IRB or ethics committee approval at each site;
- delays in or failure to recruit suitable patients to participate in a clinical study;
- delays in or failure to have patients complete a clinical study or return for post-treatment follow-up;
- clinical sites, CROs or other third parties deviating from study protocol or dropping out of a study;
- failure to perform in accordance with the FDA's good clinical practice, or GCP, requirements, or applicable regulatory guidelines in other countries;
- failure in addressing patient safety concerns that arise during the course of a study, including occurrence of adverse events associated with the product candidate;
- failure to add a sufficient number of clinical study sites; or
- failure to manufacture sufficient quantities of product candidates for use in clinical studies.

If we are required to conduct additional clinical studies or other testing of our product candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical studies of our product candidates or other testing, if the results of these studies or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- incur unplanned costs;
- be delayed in obtaining marketing approval or certification for our product candidates or not obtain marketing approval or certification at all;

- obtain marketing approval or certification in some countries and not in others;
- obtain marketing approval or certification for indications or patient populations that are not as broad as intended or desired;
- obtain marketing approval or certification with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to additional post-marketing testing requirements; or
- have the product removed from the market after obtaining marketing approval or certification.

We could encounter delays if a clinical study is suspended or terminated by us, by the IRBs of the institutions in which such studies are being conducted, by the Data Safety Monitoring Board, or DSMB, for such study or by the FDA or other regulatory authorities. These authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical study in accordance with regulatory requirements or our clinical protocols, inspection of the clinical study operations or study site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical study. We may also seek feedback from the FDA or other regulatory authorities on our clinical development program, and the FDA or such regulatory authorities may not provide such feedback on a timely basis, or such feedback may not be favorable, which could further delay our development programs.

We also cannot with any certainty whether or when we might complete a given clinical study. If we experience delays in the commencement or completion of our clinical studies, or if we terminate a clinical study prior to completion, the commercial prospects of our product candidates could be harmed, and our ability to generate revenues from our product candidates may be delayed. In addition, any delays in our clinical studies could increase our costs, slow down the development and approval or certification process and jeopardize our ability to commence product sales and generate revenues. Any of these occurrences may harm our business, financial condition and results of operations. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical studies may also ultimately lead to the denial of regulatory approval of our product candidates.

We currently conduct and may in the future conduct clinical studies for our product candidates outside the United States, and the FDA or comparable foreign regulatory authorities may not accept data from such studies.

We are currently engaging in clinical studies that involve clinical sites in the United States and EU. We could also in the future plan to conduct one or more future clinical studies of our product candidates outside the United States, including in Europe. The acceptance of study data from clinical studies conducted outside the United States or another jurisdiction by the FDA or comparable foreign regulatory authorities or notified bodies may be subject to certain conditions or may not be accepted at all. In cases where data from clinical studies conducted outside the United States are intended to serve as the sole basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the United States population and United States medical practice; (ii) the studies were performed by clinical investigators of recognized competence and (iii) the data may be considered valid without the need for an on-site inspection by the FDA or, if the FDA considers such an inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. Additionally, the FDA's clinical study requirements, including sufficient size of patient populations and statistical powering, must be met. Many foreign regulatory bodies have similar approval requirements. In addition, such foreign studies would be subject to the applicable local laws of the foreign jurisdictions where the studies are conducted. There can be no assurance that

the FDA or any comparable foreign regulatory authority or notified body will accept data from studies conducted outside of the United States or the applicable jurisdiction. If the FDA or any comparable regulatory authority or notified body does not accept such data, it would result in the need for additional studies, which would be costly and time-consuming and delay aspects of our business plan, and which may result in our product candidates not receiving approval or clearance for commercialization in the applicable jurisdiction.

We may not be able to file IDEs or IDE supplements or comparable documents in foreign jurisdictions to commence additional clinical studies on the timelines we expect, and even if we are able to, the FDA or comparable foreign regulatory authorities may not permit us to proceed.

In order to conduct a clinical investigation involving human subjects for the purpose of demonstrating the safety and effectiveness of a medical device, if necessary, for a PMA, 510(k) premarket notification or de novo classification request, a company must, among other things, apply for and obtain institutional review board, or IRB, approval of the proposed investigation. In addition, if the clinical study involves a "significant risk" (as defined by the FDA) to human health, the sponsor of the investigation must also submit and obtain FDA approval of an IDE application and follow applicable IDE regulations. Unless IDE-exempt, nonsignificant risk devices are still subject to certain abbreviated IDE requirements; however, an IDE application is not required if such abbreviated requirements are met. We may not be able to obtain any necessary FDA and/or IRB approval to undertake clinical studies in the United States for future devices we develop and intend to market in the United States. If we do obtain such approvals, the FDA may find that our studies do not comply with the IDE or other regulations governing clinical investigations or the data from any such studies may not support marketing authorization of the investigational device. Moreover, certainty that clinical studies will meet desired endpoints or produce meaningful or useful data and be free of unexpected adverse effects cannot be assured, and such uncertainty could preclude or delay marketing authorization resulting in significant financial costs and reduced revenue. Similar requirements may apply in jurisdictions outside the United States.

While we plan to submit IDEs or comparable documents for Revita, we may not be able to file such IDEs or comparable documents on the timeline we expect. For example, we may experience manufacturing delays or other delays. Moreover, we cannot be sure that submission of an IDE or comparable document will result in the FDA or other comparable foreign regulatory authorities allowing further clinical studies to begin, or that, once begun, issues will not arise that suspend or terminate clinical studies. Additionally, even if such regulatory authorities agree with the design and implementation of the clinical studies set forth in an IDE, we cannot guarantee that such regulatory authorities will not change their requirements in the future. In addition, the FDA may disapprove of our IDE or withdraw approval of a previously-approved IDE if it finds that:

- we have not complied with certain requirements of the IDE regulations, any other applicable regulations or statutes, or any condition of approval imposed by an IRB or the FDA;
- the application or a report contains untrue statements or omits required material information;
- we fail to respond to a request for additional information within the time prescribed by the FDA;
- there is reason to believe that the risks to the human subjects are not outweighed by the anticipated benefits to the subjects or the importance of the knowledge to be gained;
- the informed consent is inadequate;
- the investigation, as proposed, is scientifically unsound;
- there is reason to believe that the device as used is ineffective; or

- it is unreasonable to begin or to continue the investigation due to the way in which the device is used or the inadequacy of:

  (i) the report of prior investigations or the investigational plan;

  (ii) the methods, facilities, and controls used for the manufacturing, processing, packaging, storage, and, where appropriate, installation of the device; or

  (iii) the monitoring and review of the investigation.

Although we would expect to submit a compliant, truthful and complete application, we cannot guarantee that the FDA would approve it. If the FDA were to disapprove our IDE application or propose to withdraw prior approval, we would have the right to request a regulatory hearing. However, we cannot guarantee what the outcome of such a hearing would be. If are required and fail to obtain approval of an IDE, the FDA may prohibit us from conducting our investigation, or place us on a "clinical hold," which could result in significant delay to our clinical studies or prevent us from completing them at all.

We may not be able to file INDs or IND amendments or comparable documents in foreign jurisdictions to commence additional clinical studies on the timelines we expect, and even if we are able to, the FDA may not permit us to proceed.

While we plan to submit INDs or comparable documents for our Rejuva gene therapy candidates, we may not be able to file such INDs or comparable documents on the timeline we expect. For example, we may experience manufacturing delays or other delays with IND-enabling studies. Moreover, we cannot be sure that submission of an IND or comparable document will result in the FDA or other comparable foreign regulatory authorities allowing further clinical studies to begin, or that, once begun, issues will not arise that suspend or terminate clinical studies. Additionally, even if such regulatory authorities agree with the design and implementation of the clinical studies set forth in an IND, we cannot guarantee that such regulatory authorities will not change their requirements in the future. These considerations also apply to new clinical studies we may submit as amendments to existing INDs or to a new IND. Any failure to file INDs on the timelines we expect or to obtain regulatory approvals for our study may prevent us from completing our clinical studies or commercializing our product candidates on a timely basis, if at all.

Interim, topline and preliminary data from our clinical studies that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary or topline data from our preclinical and clinical studies, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or study. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline or preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Topline and preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the topline or preliminary data we previously published. As a result, topline and preliminary data should be viewed with caution until the final data are available.

From time to time, we may also disclose interim data from our preclinical and clinical studies. Interim data from clinical studies that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse differences between interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock.

In addition, the information we choose to publicly disclose regarding a particular study or clinical study is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure. If the interim, topline, or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

Our product candidates may cause serious adverse events or undesirable side effects or have other properties which may cause us to suspend or discontinue clinical studies, delay or prevent regulatory approval or certification, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects that may be caused by our product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical studies and could result in a more restrictive label than anticipated or the delay or denial of regulatory approval or certification by the FDA or comparable foreign regulatory authorities or notified bodies. Results of our clinical studies could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics.

If unacceptable side effects or deaths arise in the development of our product candidates, we, the FDA, the IRBs at the institutions in which our studies are conducted, DSMB or other regulatory authorities could suspend or terminate our clinical studies or the FDA or other regulatory authorities could order us to cease clinical studies or deny approval or certification of our product candidates for any or all targeted indications. Undesirable side effects or deaths in clinical studies with our product candidates may cause the FDA or comparable foreign regulatory authorities to place a clinical hold on the associated clinical studies, to require additional studies, or otherwise to delay or deny approval or certification of our product candidates for any or all targeted indications. Such side effects could also affect patient recruitment or the ability of enrolled patients to complete the study or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our product candidates to understand the side effect profiles for our clinical studies and upon any commercialization of any of our product candidates. Inadequate training in recognizing or managing the potential side effects of our product candidates could result in patient injury or death. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, if one or more of our product candidates receives marketing approval or certification and we or others later identify undesirable side effects or adverse events caused by such products, a number of potentially significant negative consequences could result, including but not limited to:

- regulatory authorities or notified bodies may suspend, limit or withdraw approvals or certifications of such product, or seek an injunction against its manufacture or distribution;
- regulatory authorities or notified bodies may require additional warnings on the label, or issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings or other safety information about the product;
- we may be required to change the way the product is administered or conduct additional clinical studies or post-approval studies;
- we may be required to create a risk evaluation and mitigation strategy, or REMS, or similar mitigation plans in the case of our Rejuva gene therapy candidates, which could include a medication guide outlining the risks of such side effects for distribution to patients;
- we may be subject to fines, injunctions or the imposition of criminal penalties;

- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product candidate, if approved or certified, and could seriously harm our business.

In previous clinical studies conducted by third parties involving viral vectors for gene therapy, some patients experienced serious adverse events, including the development of leukemia due to vector-related insertional oncogenesis. If our vectors demonstrate a similar effect, we may be required to halt or delay clinical development of our Rejuva gene therapy candidates or future gene therapy candidates.

A significant risk in any gene therapy product based on viral vectors is that the vector will insert in or near cancer-causing oncogenes leading to uncontrolled clonal proliferation of mature cancer cells in the patient. For example, in 2003, clinical studies using early versions of murine gamma-retroviral vectors, which integrate with, and thereby alter, the host cell's DNA, have led to several well-publicized adverse events, including reported cases of leukemia. The cause of these adverse events was shown to be insertional oncogenesis, which is the process whereby the corrected gene inserts in or near a gene that is important in a critical cellular process like growth or division, and this insertion results in the development of a cancer, often leukemia. Using molecular diagnostic techniques, it was determined that clones from these patients showed retrovirus insertion in proximity to the promoter of the *LMO2* proto-oncogene. Earlier generation retroviruses like the one used in these two studies have been shown to preferentially integrate in regulatory regions of genes that control cell growth.

These well-publicized adverse events led to the development of new viral vectors, such as AAV vectors, which is what we use for our planned Rejuva gene therapy candidates, with the goal of potentially improved safety profiles, as well as the requirement of enhanced safety monitoring in gene therapy clinical studies, including routine performance of vector copy number analysis on all production lots to monitor the number of insertion events per cell. Notwithstanding the potential safety improvements of AAV vectors, the risk of insertional oncogenesis remains a significant concern for gene therapy, and we cannot be certain that it will not occur in any of our clinical studies. There is also the potential risk of delayed adverse events following exposure to gene therapy products due to persistent biological activity of the genetic material or other components of products used to carry the genetic material. The FDA has stated that AAV vectors possess characteristics that may pose risks of delayed adverse events. If any such adverse events occur, advancement of our preclinical and clinical studies could be halted or delayed, which would have a material adverse effect on our business and operations.

Although Revita has received Breakthrough Device designation, there can be no guarantee that the designation will benefit the development and regulatory approval process.

Revita has received Breakthrough Device designation from the FDA for the hydrothermal ablation of the duodenal mucosa to improve glycemic control and eliminate insulin needs in T2D patients who are inadequately controlled on long-acting insulin therapy. Breakthrough Device designation is available to medical devices that meet certain eligibility criteria, including that there is a reasonable expectation that the device will provide for more effective treatment or diagnosis of life-threatening or irreversibly debilitating diseases or conditions, and that the device meets one of the following criteria: (i) the device represents a breakthrough technology, (ii) no approved or cleared alternatives exist, (iii) the device offers significant advantages over existing approved or cleared alternatives, or (iv) the availability of the device is in the best interest of patients. In granting breakthrough device designation to Revita, the FDA found the following: there is a reasonable expectation that Revita will provide for more effective treatment or T2D patients who are inadequately controlled on long-acting insulin therapy; Revita represents a breakthrough technology; Revita, if found to be safe and effective, could offer significant advantages over existing approved or cleared alternatives; and the availability of Revita, if found to be safe and effective, would be in the best interest of patients. Breakthrough Device designation provides certain benefits to device developers, including more interactive and timely communications with FDA staff, use of post-market data collection, when

scientifically appropriate, to facilitate expedited and efficient development and review of the device, opportunities for efficient and flexible clinical study design, and prioritized review of premarket submissions.

However, we may not experience a faster development process or review, and Breakthrough Device designation has no bearing on whether or not we will obtain approval, as compared to conventional FDA procedures. Breakthrough Device designation does not alter or convey any advantage in the regulatory review and approval standard for medical devices. Further, the FDA may rescind Breakthrough Device designation if it believes that the designation is no longer supported by data from our clinical development program.

If healthcare providers are unable to obtain coverage or adequate reimbursement for procedures performed with our products, if approved, such products will not likely be widely used.

In the United States, the commercial success of Revita and any future products will depend, in part, on the extent to which governmental payors at the federal and state levels, including Medicare and Medicaid, private health insurers and other third-party payors provide coverage for and establish adequate reimbursement levels for procedures utilizing our products, if approved.

Hospitals and other healthcare providers that purchase our product, if approved, for treatment of their patients generally rely on third-party payors to pay for all or part of the costs and fees associated with our products, if approved, as part of a "bundled" rate for the associated procedures. The existence of coverage and adequate reimbursement for our products, if approved, and the procedures performed with them by government and private payors is critical to market acceptance of our existing and future products. Neither hospitals nor physicians are likely to use our product, if approved, and any future products if they do not receive adequate reimbursement for the procedures utilizing such products.

Many private payors currently base their reimbursement policies on the coverage decisions and payment amounts determined by the Centers for Medicare & Medicaid Services, or CMS, which administers the Medicare program. Others may adopt different coverage or reimbursement policies for procedures performed with our products, if approved, while some governmental programs, such as Medicaid, have reimbursement policies that vary from state to state, some of which may not pay for the procedures performed with our products in an adequate amount, if at all. A Medicare national or local coverage decision denying coverage for our products or for procedures using our products could result in private and other third-party payors also denying coverage for our products or procedures using our products. Third-party payors also may deny reimbursement for our products or procedures using our products if they determine that a product used in a procedure was not medically necessary, was not used in accordance with cost-effective treatment methods, as determined by the third-party payor, or was used for an unapproved use. Unfavorable coverage or reimbursement decisions by government programs or private payors underscore the uncertainty that our product face in the market and could have a material adverse effect on our business.

Many hospitals, clinics and other health care providers in the United States participate in group purchasing organizations, or GPOs, which may incentivize their members to make a relatively large proportion of purchases of medical technology from a limited number of vendors of similar products that have contracted with the GPO to offer discounted prices to the GPO's members. Accordingly, the commercial success of our products may also depend to some extent on our ability to either negotiate favorable purchase contracts with key group purchasing organizations and/or persuade hospitals and clinics to purchase our product "off contract." The healthcare industry in the United States has experienced a trend toward cost containment as government and private payors seek to control healthcare costs by paying service providers lower rates. While we believe that hospitals will be able to obtain coverage for procedures using our products, the level of payment available to them for such procedures may change over time. State and federal healthcare programs, such as Medicare and Medicaid, closely regulate provider payment levels and have sought to contain, and sometimes reduce, payment levels. Private payors frequently follow government payment policies and are likewise interested in controlling increases in the cost of medical care. In addition, some payors are adopting pay-for-performance programs that differentiate payments to healthcare providers based on the achievement of documented quality-of-care metrics, cost efficiencies, or patient outcomes.

These programs are intended to provide incentives to providers to deliver the same or better results while consuming fewer resources. Because of these programs, and related payor efforts to reduce payment levels, hospitals and other providers are seeking ways to reduce their costs, including the amounts they pay to medical device manufacturers. We may not be able to sell our product profitably if third-party payors deny or discontinue coverage or reduce their levels of payment below that which we project, or if our production costs increase at a greater rate than payment levels. Adverse changes in payment rates by payors to hospitals could adversely affect our ability to market, sell our products, and negatively affect our financial performance.

In international markets, medical device regulatory requirements and healthcare payment systems vary significantly from country to country, and many countries have instituted price ceilings on specific product lines. We cannot assure you that our products will be considered cost-effective by international third-party payors, that reimbursement will be available or, if available, that the third-party payors' reimbursement policies will not adversely affect our ability to sell our product profitably. Any failure to receive regulatory or reimbursement approvals would negatively affect market acceptance of our products in any international markets in which those approvals are being sought.

Additional time may be required to develop and obtain regulatory approval or certification for our Rejuva gene therapy candidates because we expect it to be regulated as a combination product.

We expect our Rejuva gene therapy candidates to require the development of a drug delivery device, such that the gene therapy candidate and drug delivery device may be regulated as a biologic-device combination product that requires coordination within the FDA and similar foreign regulatory agencies and notified bodies for review of its device and biologic components. Although the FDA and similar foreign regulatory agencies and notified bodies have systems in place for the review and approval or certification of combination products such as our Rejuva gene therapy candidates, we may experience delays in the development, approval or certification, and commercialization of our Rejuva gene therapy candidates due to regulatory timing constraints and uncertainties in the product development and approval or certification process.

Obtaining and maintaining regulatory approval or certification of our product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval or certification of our product candidates in other jurisdictions.

Obtaining and maintaining regulatory approval, clearance, or certification of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain regulatory approval, clearance, or certification in any other jurisdiction, while a failure to obtain or delay in obtaining regulatory approval, clearance, or certification in one jurisdiction may have a negative effect on the regulatory approval, clearance, or certification process in others. For example, even if the FDA grants marketing approval of a product candidate, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the product candidate in those countries. Approval or certification procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and greater than, those in the United States, including additional preclinical or clinical studies as clinical studies conducted in one jurisdiction may not be accepted by regulatory authorities or notified bodies in other jurisdictions. In some cases, the price that we intend to charge for our products, if approved, is also subject to approval.

We may also submit marketing applications or certifications in other countries. Regulatory authorities and notified bodies in jurisdictions outside of the United States have requirements for approval and certification of product candidates with which we must comply prior to marketing in those jurisdictions. Obtaining foreign regulatory approvals or certifications and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products, if approved, in certain countries. If we fail to comply with the regulatory requirements in international markets and/or receive applicable marketing approvals and/or certifications, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed.

Even if we receive regulatory approval or certification of our product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.

The regulations to which we are subject are complex and have become more stringent over time. Regulatory changes could result in restrictions on our ability to continue or expand our operations, higher than anticipated costs, or lower than anticipated sales. Even after we have obtained the proper approval or certification to market a device, biological product, or combination product, we will have ongoing responsibilities under FDA regulations and applicable foreign laws and regulations.

Any regulatory approvals or certifications that we receive for our product candidates will require surveillance to monitor the safety and efficacy of the product candidate. In addition, if the FDA or a comparable foreign regulatory authority or notified body approves or certifies our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion, import, export and recordkeeping for our product candidates will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with current good manufacturing practice requirements, or cGMPs, or similar foreign requirements, good clinical practice requirements, or GCPs, for any clinical studies that we conduct post-approval, and applicable product tracking and tracing requirements for certain drug and biological products. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP or similar foreign requirements and adherence to commitments made in any marketing application and previous responses to inspectional observations. Accordingly, we and others with whom we work must continue to expend time, money and effort in all areas of regulatory compliance, including manufacturing, production and quality control. In addition, the FDA and foreign regulatory authorities could require us to conduct another study to obtain additional safety or biomarker information.

Further, we will be required to comply with FDA and other regulatory authorities' promotion and advertising rules, which include, among others, restrictions on promoting products for uses or in patient populations that are not described in the product's approved uses (known as "off-label use"), limitations on industry-sponsored scientific and educational activities and requirements for promotional activities involving the internet and social media. Although the FDA and other regulatory authorities do not regulate a physician's choice of drug treatment made in the physician's independent medical judgment, they do restrict promotional communications from companies or their sales force with respect to off-label uses of products for which marketing clearance or certification has not been issued. Later discovery of previously unknown problems with our product candidates, including adverse events of unanticipated severity or frequency, or with our third-party suppliers or manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS or similar program for our gene therapy candidates, if approved.

Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our product candidates, withdrawal of the product from the market or product recalls;
- fines, untitled letters, warning letters or holds on clinical studies;
- refusal by the FDA or similar foreign authorities to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals or similar approvals;
- product seizure or detention, or refusal to permit the import or export of our product candidates; and
- injunctions or the imposition of civil or criminal penalties.

FDA and other regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval or certification of our product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval or certification that we may have obtained and we may not achieve or sustain profitability.

For instance, the regulatory landscape related to clinical trials in the EU recently evolved. The EU Clinical Trials Regulation, or CTR, which was adopted in April 2014 and repeals the EU Clinical Trials Directive, became applicable on January 31, 2022. While the Clinical Trials Directive required a separate clinical trial application, or CTA, to be submitted in each member state in which the clinical trial takes place, to both the competent national health authority and an independent ethics committee, the CTR introduces a centralized process and only requires the submission of a single application for multi-center trials. The CTR allows sponsors to make a single submission to both the competent authority and an ethics committee in each member state, leading to a single decision per member state. The assessment procedure of the CTA has been harmonized as well, including a joint assessment by all member states concerned, and a separate assessment by each member state with respect to specific requirements related to its own territory, including ethics rules. Each member state's decision is communicated to the sponsor via the centralized EU portal. Once the CTA is approved, clinical study development may proceed. The CTR foresees a three-year transition period. The extent to which ongoing and new clinical trials will be governed by the CTR varies. Since January 31, 2023, submissions for all new clinical trials must be made under the CTR. Clinical trials for which an application was submitted (i) prior to January 31, 2022 under the Clinical Trials Directive, or (ii) between January 31, 2022 and January 31, 2023 and for which the sponsor has opted for the application of the EU Clinical Trials Directive remain governed by said Directive until January 31, 2025. After this date, all clinical trials (including those which are ongoing) will become subject to the provisions of the CTR. Compliance with the CTR requirements by us and our third-party service providers, such as CROs, may impact our developments.

The EU landscape concerning medical devices recently evolved. On May 25, 2017, the MDR entered into force, which repeals and replaces the MDD and the AIMDD. Unlike directives, which must be implemented into the national laws of the EU member states, regulations are directly applicable (i.e., without the need for adoption of EU member state laws implementing them) in all EU member states and are intended to eliminate current differences in the regulation of medical devices among EU member States.

The MDR, among other things, is intended to establish a uniform, transparent, predictable and sustainable regulatory framework across the EU and EEA for medical devices and to ensure a high level of safety and health while supporting innovation. See "Government Regulations—Regulation of Medical Devices in the European Union" for more information.

These modifications may have an effect on the way we intend to develop our business in the EU and EEA. For example, as a result of the transition towards the new regime, notified body review times have lengthened, and product introductions could be delayed or canceled, which could adversely affect our ability to grow our business.

We expect our Rejuva gene therapy candidates will be, and future gene therapy candidates may be, regulated as biological products, or biological product-device combination products, and therefore may be subject to competition sooner than anticipated.

The Biologics Price Competition and Innovation Act of 2009, or BPCIA, was enacted as part of the Affordable Care Act to establish an abbreviated pathway for the approval of biosimilar and interchangeable biological products. The regulatory pathway establishes legal authority for the FDA to review and approve biosimilar biologics, including the possible designation of a biosimilar as "interchangeable" based on its similarity to an approved biologic. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA.

In addition, an application for a biosimilar product cannot be approved by the FDA until 12 years after the reference product was approved under a BLA. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty. While it is uncertain when processes intended to implement BPCIA may be fully adopted by the FDA, any of these processes could have a material adverse effect on the future commercial prospects for our biological products.

We believe that any of the product candidates we develop that is approved in the United States as a biological product under a BLA, if any, should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider the subject product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of the reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

In addition, the approval of a biologic product biosimilar to one of our product candidates could have a material adverse impact on our business as it may be significantly less costly to bring to market and may be priced significantly lower than our products.

Disruptions at the FDA and other government agencies or notified bodies caused by funding shortages or global health concerns could hinder their ability to hire, retain or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, cleared or approved, or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA, similar foreign regulatory authorities and notified bodies to review and authorize or certify new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies, such as the European Medicines Agency, or the EMA, following its relocation to Amsterdam and corresponding staff changes, may also slow the time necessary for new products or modifications to cleared or approved products to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical employees and stop critical activities.

Separately, in response to the COVID-19 pandemic, the FDA postponed most inspections of domestic and foreign manufacturing facilities at various points. Even though the FDA has since resumed standard inspection operations of domestic manufacturing facilities where feasible, the FDA has continued to monitor and implement changes to its inspectional activities to ensure the safety of its employees and those of the firms it regulates as it adapts to the evolving COVID-19 pandemic, and any resurgence of the virus or emergence of new variants may lead to further inspectional delays. Regulatory authorities outside the United States have adopted similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities or notified bodies from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities or notified bodies to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

For instance in the EU, notified bodies must be officially designated to certify products and services in accordance with the MDR. However, the COVID-19 pandemic has significantly slowed down their designation process and the current designated notified bodies are facing a large amount of requests with the new regulation

and notified body review times have lengthened. This situation could impact our ability to grow our business in the EU and EEA and the ability of the notified body to timely review and process our regulatory submissions and perform its audits.

A recall of our products, if approved, either voluntarily or at the direction of the FDA or another governmental authority, or the discovery of serious safety issues with our products, could have a significant adverse impact on us.

The FDA and similar foreign governmental authorities have the authority to require the recall of commercialized medical devices in the event of material deficiencies or defects in design or manufacture or in the event that a product poses an unacceptable risk to health. Manufacturers may, under their own initiative, recall a product if any material deficiency in a device is found. A government-mandated or voluntary recall by us or one of our distributors could occur as a result of an unacceptable risk to health, component failures, manufacturing errors, design or labeling defects or other deficiencies and issues. Recalls of any of our products would divert managerial and financial resources and have an adverse effect on our reputation, results of operations and financial condition, which could impair our ability to produce our products in a cost-effective and timely manner in order to meet our customers' demands. We may also be required to bear other costs or take other actions that may have a negative impact on our future sales and our ability to generate profits.

Further, under the FDA's medical device reporting regulations, we are required to report to the FDA any incident in which a commercialized medical device product may have caused or contributed to a death or serious injury or in which our product malfunctioned and, if the malfunction were to recur, would likely cause or contribute to death or serious injury. Repeated product malfunctions may result in a voluntary or involuntary product recall, which could divert managerial and financial resources, impair our ability to manufacture our products in a cost-effective and timely manner and have an adverse effect on our reputation, results of operations and financial condition.

In the EU, we must comply with the EU medical device vigilance system. Under this system, serious incidents and Field Safety Corrective Actions, or FSCAs must be reported to the relevant authorities of the EU. These reports will have to be submitted through EUDAMED—once functional—and aim to ensure that, in addition to reporting to the relevant authorities of the EU member states, other actors such as the economic operators in the supply chain will also be informed. Until EUDAMED is fully functional, the corresponding provisions of the MDD continue to apply. FSCAs must be communicated by the manufacturer or its legal representative to its customers and/or to the end users of the device through Field Safety Notices, or FSNs. For similar serious incidents that occur with the same device or device type and for which the root cause has been identified or a FSCA implemented or where the incidents are common and well documented, manufacturers may provide periodic summary reports instead of individual serious incident reports.

Any adverse event involving our products, whether in the United States or abroad, could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection, mandatory recall or other enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of our time and capital, distract management from operating our business and may harm our reputation and financial results.

If we obtain approval or certification of any of our product candidates, we may be subject to enforcement action if we engage in the off-label promotion of our products.

If we obtain approval or certification for any product candidates, our promotional materials and training methods must comply with FDA and other applicable laws and regulations, including the prohibition on the promotion of off-label use. Physicians may use our products off-label, as the FDA does not restrict or regulate a physician's choice of treatment within the practice of medicine. For example, we are pursuing market authorization for Revita to improve glycemic control and eliminate insulin needs in T2D patients inadequately

controlled on insulin, but physicians may decide to use Revita for other, non-approved, T2D patient populations. If the FDA determines that our promotional materials or training constitutes promotion of an off-label use, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, injunction, seizure, civil fine and criminal penalties. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider our promotional or training materials to constitute promotion of an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false claims for reimbursement. In that event, our reputation could be damaged and adoption of the products would be impaired. Although our policy is to refrain from statements that could be considered off-label promotion of our products, the FDA or another regulatory agency could disagree and conclude that we have engaged in off-label promotion. In addition, the off-label use of our products may increase the risk of injury to patients, and, in turn, the risk of product liability claims. Product liability claims are expensive to defend and could divert our management's attention, result in substantial damage awards against us and harm our reputation.

Risks Related to Our Business and Strategy

We are substantially dependent on the success of our lead product candidate, Revita. If we are unable to obtain marketing approval or certification for and commercialize any of our current or future product candidates in a timely manner, our business will be harmed.

Our future success is dependent on our ability to timely advance and complete clinical studies, obtain marketing approval or certification for and successfully commercialize Revita. In 2016, Revita was CE marked under the MDD. The certificate was renewed under the MDD on March 8, 2021. However, we have only received reimbursement authorization for this product in Germany. We are investing significant efforts and financial resources in the research and development of Revita as well as our Rejuva gene therapy candidates. We are currently conducting a pivotal clinical study of Revita in patients with inadequately controlled T2D despite being on up to three ADAs and 20 to 100 units of insulin daily. Revita will require additional clinical development, evaluation of clinical manufacturing activities, marketing approval from government regulators, substantial investment and significant marketing efforts before we can generate any revenues from product sales in the United States. We are not permitted to market or promote Revita or any other product candidate, before we receive marketing approval or certification from the FDA or comparable foreign regulatory authorities or notified bodies, and we may never receive such marketing approvals or certifications.

The success of Revita will depend on several factors, including the following:

- the successful and timely completion of our ongoing or planned clinical studies;
- the initiation and successful patient enrollment and completion of additional clinical studies on a timely basis;
- maintaining and establishing relationships with CROs and clinical sites for clinical development, both in the United States and internationally;
- the frequency and severity of adverse events in the clinical studies;
- the efficacy, safety and tolerability profiles that are satisfactory to the FDA or any comparable foreign regulatory authority or notified bodies for marketing approval or certification;
- the timely receipt of marketing approvals or certifications from applicable regulatory authorities or notified bodies;
- the extent of any required post-marketing approval commitments to applicable regulatory authorities;

- maintaining our manufacturing facility and certain regulatory requirements thereof;
- the maintenance of existing or the establishment of new supply arrangements with third-party drug product suppliers and manufacturers for clinical development;
- the maintenance of existing, or the establishment of new, scaled production arrangements with third-party manufacturers to obtain finished products that are appropriate for commercial sale of our product candidates, if approved or certified;
- the protection of our rights in our intellectual property portfolio;
- the successful launch of commercial sales following any marketing approval or certification;
- a continued acceptable safety profile following any marketing approval;
- commercial acceptance by patients, the medical community and third-party payors; and
- our ability to compete with other therapies.

We do not have complete control over many of these factors, including certain aspects of clinical development and the regulatory submission process, potential threats to our intellectual property rights and the manufacturing, marketing, distribution and sales efforts of any future collaborator. If we are not successful with respect to one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully commercialize Revita, which would materially harm our business. If we do not receive marketing approvals or certification under the MDR for Revita, we may not be able to continue our operations.

Our long-term prospects depend in part upon discovering, developing and commercializing product candidates, which may fail in development or suffer delays that adversely affect their commercial viability. We intend to identify and develop novel product candidates, which makes it difficult to predict the time, cost and potential success of our current product candidates, and other product candidates we may develop in the future.

Our future results of operations are dependent on our ability to successfully discover, develop, obtain regulatory approval or certification for and commercialize product candidates beyond those we currently have in preclinical studies and clinical development. A product candidate can unexpectedly fail at any stage of preclinical and clinical development. The historical failure rate for product candidates is high due to risks relating to safety, efficacy, clinical execution, changing standards of medical care and other unpredictable variables. The results from preclinical or early clinical studies of a product candidate may not be predictive of the results that will be obtained in later stage clinical studies of the product candidate.

The success of the product candidates we have or may develop will depend on many factors, including the following:

- the success of our research methodology in identifying potential indications or product candidates;
- generating sufficient data to support the initiation or continuation of clinical studies;
- obtaining regulatory permission to initiate clinical studies;
- contracting with the necessary parties to conduct clinical studies;
- successful enrollment of patients in, and the completion of, clinical studies on a timely basis;

- the timely manufacture of sufficient quantities of the applicable product candidate for use in clinical studies;
- the possible occurrence of adverse events in our clinical studies; and
- any potential interruptions or delays resulting from factors related to the COVID-19 pandemic or any future public health crises, including epidemics and pandemics.

In addition, our strategy includes identifying, developing and commercializing our Rejuva gene therapy candidates by using an AAV vector for endoscopic delivery of transgenes, such as GLP-1 receptor analog, to the pancreas to enable long-term remission of T2D by potentially restoring insulin production in patients with advanced disease. Our future success depends on the successful development of our Rejuva gene therapy platform. To date, very few products that utilize gene transfer have been approved in the United States or Europe and no gene therapy products that utilize an endoscopic method of administration have been approved. In addition, there have been a limited number of clinical studies of gene transduction technologies as compared to other, more conventional forms of therapy.

Although several AAV vectors have been tested in numerous clinical studies and are currently used in FDA-approved products, we cannot be certain that our Rejuva gene therapy candidates will successfully complete preclinical and clinical studies, or that it will not cause significant adverse events or toxicities. We also cannot be certain that we will be able to avoid triggering toxicities in our future preclinical or clinical studies or that our endoscopic method of administration will not cause unforeseen side effects or other challenges. Any such results could impact our ability to develop a product candidate, including our ability to enroll patients in our clinical studies. As a result of these factors, it is more difficult for us to predict the time and cost of our Rejuva gene therapy candidates' development, and we cannot predict whether the application of our approach to gene therapy, or any similar or competitive programs, will result in the identification, development, and regulatory approval of Rejuva, or that other gene therapy programs will not be considered better or more attractive. There can be no assurance that any development problems we experience in the future related to our Rejuva gene therapy candidates or any of our research programs will not cause significant delays or unanticipated costs, or that such development problems can be solved. We may also experience delays and challenges in achieving sustainable, reproducible, and scalable production. Any of these factors may prevent us from completing our preclinical or clinical studies or commercializing any gene therapy candidates we may develop on a timely or profitable basis, if at all.

Even if we successfully advance any other product candidates into clinical development, their success will be subject to all of the clinical, regulatory and commercial risks described elsewhere in this "Risk Factors" section. Accordingly, we cannot assure you that we will ever be able to discover, develop, obtain regulatory approval or certification of, commercialize or generate significant revenue from our other product candidates.

We may not be able to gain the support of leading hospitals and key thought leaders, or to publish the results of our clinical studies in peer-reviewed journals, which may make it difficult to establish the Revita DMR Procedure and/or our Rejuva gene therapy candidates as a standard of care, if approved, and may limit our revenue growth and ability to achieve profitability.

Our strategy includes developing relationships with leading hospitals and key thought leaders in the industry. If these hospitals and key thought leaders determine that the Revita DMR Procedure and/or our Rejuva gene therapy candidates are not clinically effective, or that alternative technologies or products are more effective, or if we encounter difficulty promoting adoption of or establishing the Revita DMR Procedure and/or our Rejuva gene therapy candidates as a standard of care, once approved or certified, our revenue growth and our ability to achieve profitability could be significantly limited.

We believe that the successful completion of our clinical studies of the Revita DMR Procedure and our Rejuva gene therapy candidates, publication of scientific and medical results in peer-reviewed journals, and

presentation of data at leading conferences are critical to the broad adoption of the Revita DMR Procedure and our Rejuva gene therapy candidates. Publication in leading medical journals is subject to a peer-review process, and peer reviewers may not consider the results of studies involving the Revita DMR Procedure and/or our Rejuva gene therapy candidates sufficiently novel or worthy of publication.

We have not yet studied the ability of Revita to be used in repeated procedures. If we are unable to demonstrate the safety and improved glycemic effects of Revita for repeat use, it could have a material adverse effect on the on the clinical utility and commercial adoption of the device.

We have not yet studied the ability of Revita to be used in repeat procedures. Although, in a long-term follow-up study of the PP population in our Revita-1 study, we observed a statistically significant mean HbA1c reduction of 1.0% (n=27) at 24 months in patients who underwent the Revita DMR Procedure, in combination with at least one ongoing OAD and lifestyle counseling, we cannot be certain that patients will be able to have repeat procedures in the future. If we are unable to demonstrate the safety of Revita for repeat use, it could have a material adverse effect on the clinical utility and commercial adoption of Revita because providers, referring physicians, payors and patients may not find the product to be a compelling treatment option for T2D patients. To the extent any of the aforementioned groups do not accept Revita as a compelling treatment option for T2D patients, it could significantly harm our business, financial condition and prospects.

We have never obtained marketing approval for a product candidate in the United States and we may be unable to obtain, or may be delayed in obtaining, marketing approval for any product candidate in the United States.

We have never obtained marketing approval for a product candidate in the United States. It is possible that the FDA may refuse to accept for substantive review any PMAs, BLAs or similar applications that we submit for our product candidates or may conclude after review of our data that our applications are insufficient to obtain marketing approval of our product candidates. We believe our proposed approach of treating T2D and obesity through the Revita DMR Procedure and our Rejuva gene therapy candidates is novel and, as a result, the process for, and the outcome of, our efforts to seek FDA approval is especially uncertain. If the FDA does not accept or approve our PMAs or BLAs for our product candidates, it may require that we conduct additional clinical, preclinical, or manufacturing validation studies and submit that data before it will reconsider our applications. Depending on the extent of these or any other FDA-required studies, approval of any PMA or BLA that we submit may be delayed or may require us to expend more resources than we have available. It is also possible that additional studies, if performed and completed, may not be considered sufficient by the FDA to approve our PMAs or BLAs.

Any delay in obtaining, or an inability to obtain, marketing approvals would prevent us from commercializing our product candidates, generating revenues, and achieving and sustaining profitability. If any of these outcomes occur, we may be forced to abandon our development efforts for our product candidates, which could significantly harm our business.

If we are unable to obtain a billing code from the U.S. Department of Health and Human Services so that procedures using Revita, if approved, are covered under Medicare and Medicaid, this could have a negative impact on our intended sales and would have a material adverse effect on our business, financial condition and operating results.

We plan to submit an application to the U.S. Department of Health and Human Services for a billing code so that procedures using Revita, if approved, are covered under Medicare and Medicaid. However, there can be no assurance that our application will be successful, or that we will be able to obtain a code in a timely manner. In the event that we do not obtain a billing code for Revita, our customers may be unable to obtain reimbursement to cover the cost of their purchases under private or government-sponsored insurance plans, which could have a negative impact on our sales and have a material adverse effect on our business, financial condition and operating results. In addition, Medicare and its administrative contractors as well as other insurers

must find that Revita meets their medical necessity requirements for the treatment of patients with T2D on long-acting insulin or they will not pay for the treatment. In addition, there is a risk that the payment amount for Revita could be too low or too high to incentivize customer adoption.

If Revita, our Rejuva gene therapy candidates or any of our other future product candidates is approved or certified and fail to achieve and sustain sufficient market acceptance, we will not generate expected revenue and our business may be harmed.

Commercialization of Revita, our Rejuva gene therapy candidates and any of our other future product candidates in the United States and other jurisdictions in which we intend to pursue marketing approval or certification for such product candidates is a key element of our strategy. To be commercially successful, we must establish through clinical studies and convince physicians, hospitals and other healthcare providers, as well as potential patients, that the Revita DMR Procedure and our Rejuva gene therapy candidates are superior and attractive alternatives to currently available treatment options. Acceptance of our Rejuva gene therapy candidates and the Revita DMR Procedure depends on establishing their safety and effectiveness, including the Revita DMR Procedure's durability in treating T2D, and educating our target audience about their distinct characteristics, potential benefits, safety and ease-of-use. If we are not successful in establishing safety, effectiveness and ease of use, and conveying that our product candidates, if approved or certified, or the procedures and treatment they enable, provide superior results compared to existing technologies, practices and/or therapies, or that these product candidates improve patient outcomes, we may experience reluctance or refusal on the part of physicians, hospitals and other healthcare providers to accept and order, and third-party payors to pay for the treatment or procedures performed with, our product candidates, or patients may elect not to undergo the Revita DMR Procedure or take our Rejuva gene therapy candidates.

We believe that physicians, hospital and other healthcare providers will not widely accept our product candidates unless they are able to determine that our product candidates provide a benefit to patients and are a superior alternative to currently available interventions and easily integrated into their current endoscopy suite. Physicians, hospitals and other healthcare providers may be hesitant to change their medical treatment practices for the following reasons, among others:

- comfort and experience with current treatment regimens;
- long-standing relationships with competitors and distributors that sell other products and such parties' negative selling efforts;
- perceived liability risks generally associated with the use of new products and procedures;
- lack or perceived lack of long-term clinical data relating to safety or effectiveness, including durable effectiveness;
- difficulty in using Revita;
- higher cost or perceived higher cost of our product candidate compared to currently available treatments; and
- the additional time commitment that may be required for training.

These hurdles may make it difficult to demonstrate to physicians, hospitals and other healthcare providers that the Revita DMR Procedure and our Rejuva gene therapy candidates are an appropriate option for treating metabolic diseases, such as T2D and obesity, may be superior to available treatments and may be more cost-effective than alternative technologies. Furthermore, we may encounter significant difficulty in gaining inclusion in metabolic disease treatment guidelines and gaining broad market acceptance by healthcare providers, third-party payors and patients for our products, if approved, or procedures in which our products are used.

In addition, patient satisfaction with the Revita DMR Procedure and our Rejuva gene therapy candidates will be an important factor in providers' decisions to use our products. The success of any particular procedure using our products, and a patient's satisfaction with the procedure, is dependent on the technique and execution of the procedure by the endoscopist. Even if our products are manufactured exactly to specification, there is a risk that the endoscopist may not perform the procedure to specifications, leading to patient dissatisfaction with the procedure. If patients do not have a good outcome following procedures conducted using our products, providers' views of our products may be negatively impacted.

If we fail to successfully commercialize our products, if approved or certified, we may never receive a return on the significant investments in product development, sales and marketing, regulatory, manufacturing and quality assurance we have made, or further investments we intend to make, and we may fail to generate revenue or gain economies of scale from such investments.

Our future growth depends on physician awareness and adoption of the Revita DMR Procedure.

We intend to focus our sales, marketing and training efforts on diabetologists, gastroenterologists and interventional endoscopists. However, the initial point of contact for many patients suffering from T2D may be primary care physicians, or PCPs, or other referring medical professionals, such as nurse practitioners or physician assistants, who commonly see patients who have, or who are at risk of developing, T2D. We believe that education of PCPs, and other medical professionals caring for patients with metabolic diseases, about the clinical merits and patient benefits of the Revita DMR Procedure and our Rejuva gene therapy candidates is an important element of the adoption and market acceptance of our product candidates. If we fail to educate PCPs and other medical professionals, or if we educate them but they disagree with the clinical merits, patient benefits and ease-of-use of the DMR procedure using Revita and/or our Rejuva gene therapy candidates, or do not modify their current referral pattern to refer T2D and/or obesity patients to diabetologists, gastroenterologists and interventional endoscopists to perform the DMR procedure using Revita, our ability to achieve our projected revenues may be impaired.

The training required for endoscopists to use Revita could reduce the market acceptance of our products.

As with any new method or technique, endoscopists must undergo a training program before they are qualified to perform DMR procedure using Revita and administer our Rejuva gene therapy candidates. Endoscopists may not achieve the technical competency necessary to perform the procedure. We could also experience difficulty in meeting expected levels of endoscopists' completing our training program. This could happen due to there being less demand than expected, the length of time necessary to train each endoscopist being longer than we anticipate and/or the capacity of our future sales representatives to train endoscopists being lower than expected.

We have never commercialized a product candidate before and may lack the necessary expertise, personnel and resources to successfully commercialize any products on our own or together with suitable collaborators.

We have never commercialized a product candidate, and we currently have no sales force, marketing or distribution capabilities. We will have to develop our own sales, marketing and supply organization or outsource these activities to a third party to commercialize our products. If we decide to license our product candidate to others, we may need to rely on the marketing assistance and guidance of those collaborators.

Factors that may affect our ability to commercialize our product candidates on our own include recruiting and retaining adequate numbers of effective sales and marketing personnel, obtaining access to or persuading adequate numbers of physicians to prescribe our product candidates and other unforeseen costs associated with creating an independent sales and marketing organization. Developing a sales and marketing organization will be expensive and time-consuming and could delay the launch of our product candidates. We may not be able to build an effective sales and marketing organization. If we are unable to build our own

distribution and marketing capabilities or to find suitable partners for the commercialization of our product candidates, we may not generate revenues from them or be able to reach or sustain profitability.

The medical device, diabetes management and biopharmaceutical markets are highly competitive. We face significant competition, and if our competitors develop and market technologies or products more rapidly than we do or that are more effective, safer or less expensive than the product candidates we develop, our commercial opportunities will be negatively impacted.

If our device product candidates receive marketing authorization or are cleared, approved or certified by regulatory authorities or notified bodies, when we commercialize our products we will compete with commercial medical device and diabetes management companies that offer a wider variety of products, services and procedures within the diabetic care categories. Some of these product offerings include: lifestyle and diet services, pharmaceuticals, and bariatric surgeries, in particular gastric bypass surgeries. Most of our expected competitors are either publicly traded or are divisions of publicly traded companies and have a number of competitive advantages over us, including:

- greater name and brand recognition, and financial and human-capital resources;
- longer commercial histories and better-established, broader operations and product lines and pipelines;
- larger sales forces and more established distribution networks;
- greater experience in conducting research and development, manufacturing, clinical studies, preparing regulatory submissions and obtaining regulatory clearance, approval or certification for product candidates;
- substantial intellectual property portfolios;
- larger and better-established customer bases and more extensive relationships with physicians, including diabetologists and endoscopists, providing them with more opportunities to interact with stakeholders involved in purchasing decisions; and
- better-established, larger-scale and lower-cost manufacturing capabilities and supplier relationships.

We believe that the principal competitive factors in our target markets include:

- safety and impact of products and procedures on the health of the patient;
- acceptance by diabetologists, endoscopists, endocrinologists, PCPs and other healthcare providers;
- reputation among physicians, hospitals and other healthcare providers;
- effectiveness, ease-of-use and reliability of the Revita DMR Procedure;
- capital and per-procedure economics of the DMR procedure using Revita;
- capital and per-treatment economics of our Rejuva gene therapy candidates;
- ability to implement a consumables-based model for product candidates;
- innovation in product candidate offerings;

- effective manufacturing, sales, marketing and distribution channels; and
- technical superiority of the Revita DMR Procedure in comparison to current treatment options.

We cannot assure you that we will effectively compete or that we will be successful in the face of increasing competition from existing and new products and technologies introduced by competitors, including pharmaceutical therapies to treat the same metabolic diseases as those targeted by our product candidates. We cannot assure you that our future competitors do not have or will not develop products or technologies that enable them to produce competitive products with greater capabilities or at lower costs than our product candidates. Any failure to compete effectively could materially and adversely affect our business, financial condition and operating results.

In addition, the biotechnology and biopharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary and novel products and product candidates. Our competitors have developed, are developing or may develop products, product candidates and processes competitive with our product candidates. Any product candidates that we successfully develop and commercialize, such as our Rejuva gene therapy candidates, will compete with existing therapies and new therapies that may become available in the future. We believe that a significant number of products are currently under development, and may become commercially available in the future, for the treatment of conditions for which we may attempt to develop product candidates.

In particular, there is intense competition in the field of gene therapy we are pursuing. We have competitors both in the United States and internationally, including major multinational biopharmaceutical companies, established biotechnology companies, specialty biopharmaceutical companies, emerging and start-up companies, universities and other research institutions. We also compete with these organizations to recruit management, scientists and clinical development personnel, which could negatively affect our level of expertise and our ability to execute our business plan. We will also face competition in establishing clinical study sites, enrolling subjects for clinical studies and in identifying and in-licensing new product candidates.

We have chosen to initially address a well-validated biochemical target, and therefore expect to face competition from existing products and products in development for each of our product candidates. There are a large number of companies developing or marketing gene therapies, including many major pharmaceutical and biotechnology companies. Many of these current and potential competitors have significantly greater financial, manufacturing, marketing, drug development, technical and human resources and commercial expertise than we do. Large pharmaceutical and biotechnology companies, in particular, have extensive experience in clinical testing, obtaining regulatory approvals, recruiting patients and manufacturing biotechnology products. These companies also have significantly greater research and marketing capabilities than we do and may also have products that have been approved or are in late stages of development, and collaborative arrangements in our target markets with leading companies and research institutions. Established biopharmaceutical and biotechnology companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we develop obsolete. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies, as well as in acquiring technologies complementary to, or necessary for, our programs. As a result, our competitors may succeed in obtaining approval from the FDA or other comparable foreign regulatory authorities or in discovering, developing and commercializing products in our field before we do.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe effects, are more convenient, have a broader label, are marketed more effectively, are reimbursed or are less expensive than any products that we may develop. Our competitors also may obtain marketing approval from the FDA or other comparable foreign regulatory authorities for their products more rapidly than we may obtain approval for ours, which could

result in our competitors establishing a strong market position before we are able to enter the market. Even if the product candidates we develop achieve marketing approval, they may be priced at a significant premium over competitive products if any have been approved by then, resulting in reduced competitiveness. Technological advances or products developed by our competitors may render our technologies or product candidates obsolete, less competitive or not economical. If we are unable to compete effectively, our opportunity to generate revenue from the sale of our products we may develop, if approved, could be adversely affected.

We may not be able to develop new product candidates or enhance the capabilities of our existing product candidates to keep pace with our industry's rapidly changing technology and customer requirements, which could have a material adverse impact on our revenue, results of operations and business.

Our industry is characterized by rapid technological changes, frequent new product introductions and enhancements and evolving industry standards. Our success depends on our ability to develop new product candidates and applications for our technology in new markets that develop as a result of technological and scientific advances, while improving the performance and cost-effectiveness of our existing product candidates. New technologies, techniques or products could emerge that might offer better combinations of price and performance than the products and systems that we plan to sell. Existing markets for our intended product candidates are characterized by rapid technological change and innovation. It is critical to our success that we anticipate changes in technology and customer requirements and physician, hospital and healthcare provider practices and successfully introduce new, enhanced and competitive technologies to meet our prospective customers' needs on a timely and cost-effective basis. At the same time, however, we must carefully manage our introduction of new product candidates. If potential customers believe that such product candidates will offer enhanced features or be sold for a more attractive price, they may delay purchases until such product candidates are available. We may also have excess or obsolete inventory of older products as we transition to new product candidates, and we have no experience in managing product transitions. If we do not successfully innovate and introduce new technology into our anticipated product lines or manage the transitions of our technology to new product offerings, our revenue, results of operations and business will be adversely impacted.

Competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements. We anticipate that we will face strong competition in the future as expected competitors develop new or improved products and as new companies enter the market with new technologies.

If the market opportunity for any product candidate that we develop is smaller than we believe, our revenue may be adversely affected and our business may suffer.

Our projections of addressable patient populations that may benefit from treatment with our product candidates are based on our estimates. These estimates, which have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations and market research, may prove to be incorrect. Further, our internal estimates are based in large part on current patterns of treatment selection by diabetologists. Additionally, the potentially addressable patient population for our product candidates may not ultimately be amenable to treatment with our product candidates. Our market opportunity may also be limited by future competitor treatments that enter the market. If any of our estimates prove to be inaccurate, the market opportunity for any product candidate that we develop could be significantly diminished and have an adverse material impact on our business.

If the quality of our product candidates does not meet the expectations of diabetologists, gastroenterologists, interventional endoscopists, endocrinologists, PCPs or other referring physicians, or patients, then our brand and reputation could suffer and our business could be adversely impacted.

In the course of conducting our business, we must adequately address quality issues that may arise with our product candidates, as well as defects in third-party components included in our product candidates.

Although we have established internal procedures to detect and address quality issues, there can be no assurance that we will be able to eliminate or mitigate risks that may arise from these issues. If the quality of our product candidates does not meet the expectations of diabetologists, gastroenterologists, interventional endoscopists, endocrinologists, PCPs or other referring physicians, or patients, then our brand and reputation could suffer, and our business could be adversely impacted.

Our sales cycle will be lengthy and variable, which makes it difficult for us to forecast revenue and other operating results.

If Revita is approved, we expect that our sales process will involve numerous interactions with multiple individuals within an organization and will often include in-depth analysis by potential customers of our products, performance of proof-of-concept studies, preparation of extensive documentation and a lengthy review process. As a result of these factors and the budget cycles of our potential customers, the time from initial contact with a customer to our receipt of a purchase order will vary significantly and could be up to 12 months or longer. Given the length and uncertainty of our anticipated sales cycle, we likely will experience fluctuations in our product sales on a period-to-period basis. Expected revenue streams are highly dependent on adoption of our consumables-based business model, and we cannot assure you that our potential clients will follow a consistent purchasing pattern. Moreover, it is difficult for us to forecast our revenue from product candidates that are not yet approved for commercialization, as such revenue is dependent upon our ability to establish, and then convince the medical community and third-party payors of, the clinical utility and economic benefits of our product candidates.

Third-party payors may choose not to cover the DMR procedure using Revita or they may require extensive and/or independently performed clinical studies prior to covering or maintaining coverage of the DMR procedure using Revita.

Our success depends on the medical and third-party payor communities' acceptance of our product candidates as tools and/or therapies that are useful to diabetologists, gastroenterologists and interventional endoscopists in treating patients with T2D and other metabolic diseases. The safety and effectiveness of the Revita DMR Procedure and our Rejuva gene therapy candidates have not been established, and we cannot assure you that any data that we or others generate will be consistent with the preclinical and clinical studies we have completed, or those we intend to complete. Even if our clinical studies demonstrate safety and effectiveness sufficient to gain regulatory approval for Revita or our Rejuva gene therapy candidates, certain diabetologists, gastroenterologists, interventional endoscopists, hospitals, ambulatory surgery centers and third-party payors may not find data from our clinical studies compelling or may prefer to see longer-term effectiveness data before adopting or covering the DMR procedure using Revita and/or our Rejuva gene therapy candidates. If providers do not adopt or third-party payors do not provide coverage for the DMR procedure using Revita and/or our Rejuva gene therapy candidates, our business will be materially and adversely affected.

We depend on our information technology systems, and any failure of these systems could harm our business.

We depend on information technology systems for significant elements of our operations, including the storage of data and retrieval of critical business information. We have installed, and expect to expand, a number of enterprise software systems that affect a broad range of business processes and functional areas, including systems handling human resources, financial controls and reporting, contract management, regulatory compliance and other infrastructure operations. These information technology systems may support a variety of functions, including storage of clinical data, laboratory operations, test validation, quality control, customer service support, billing and reimbursement, research and development activities and general administrative activities.

Information technology systems are vulnerable to damage from a variety of sources, including network failures, malicious or accidental human acts and natural disasters. Despite network security and back-up

measures, some of our servers are potentially vulnerable to physical or electronic break-ins, computer viruses and similar disruptive problems. Failures or significant downtime of our information technology systems or those used by our third-party service providers could prevent us from conducting our general business operations. Any disruption or loss of information technology systems on which critical aspects of our operations depend could have an adverse effect on our business. Further, we store highly confidential information on our information technology systems, including information related to clinical data, product designs and plans to create new products. If our systems are compromised by a physical or electronic break-in, computer virus or other malicious or accidental human action, our confidential information could be compromised, stolen or destroyed.

Negative public opinion and increased regulatory scrutiny of gene therapy may damage public perception of the safety of our Rejuva gene therapy candidates, and any of our potential future gene therapy candidates, and adversely affect our ability to conduct our business or obtain regulatory approvals for our Rejuva gene therapy candidates.

Our Rejuva PGTx candidate involves introducing genetic material into a patient's pancreas via endoscopic administration. Gene therapy remains a novel technology, with only a limited number of gene therapy approved to date. Public perception may be influenced by claims that gene therapy is unsafe, and gene therapy may not gain the acceptance of the public or the medical community. In particular, our success will depend upon physicians who specialize in the treatment of metabolic diseases targeted by our current or future gene therapy candidates, prescribing treatments that involve the use of our current or future gene therapy candidates in lieu of, or in addition to, existing treatments with which they are familiar and for which greater clinical data may be available. More restrictive government regulations or negative public opinion would have an adverse effect on our business, financial condition, results of operations and prospects and may delay or impair the development, commercialization or demand of our current and future gene therapy candidates we develop. Potential serious adverse events in our clinical studies, or other clinical studies involving gene therapy or our competitors' products, even if not ultimately attributable to the relevant product candidates, and the resulting publicity, could result in increased government regulation, unfavorable public perception, potential regulatory delays in the testing or approval of our current and future gene therapy candidates, stricter labeling requirements for those product candidates that are approved and a decrease in demand for any such product candidates.

Risks Relating to Our Dependence on Third Parties

We substantially rely, and expect to continue to rely, on third parties, including independent clinical investigators and CROs, to conduct certain aspects of our preclinical studies, and clinical studies. If these third parties do not successfully carry out their contractual duties, comply with applicable regulatory requirements or meet expected deadlines, we may not be able to obtain marketing authorization of or commercialize our product candidates and our business could be substantially harmed.

We substantially rely, and expect to continue to rely, on third parties, including independent clinical investigators and third-party CROs, to conduct certain aspects of our preclinical studies and to monitor and manage data for our ongoing preclinical programs. We rely on these parties for execution of our preclinical and clinical studies, and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies and studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on these third parties does not relieve us of our regulatory responsibilities. We, our third-party contractors and CROs are required to comply with GCP requirements, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities for all of our products candidates in clinical development. Regulatory authorities enforce these GCPs through periodic inspections of study sponsors, principal investigators and study sites. If we or any of these third parties or our CROs fail to comply with applicable GCPs, the clinical data generated in our clinical studies may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical studies before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical studies comply with GCP regulations.

In addition, our clinical studies must be conducted with product produced under cGMP or similar foreign regulations. Our failure to comply with these regulations may require us to repeat clinical studies, which would delay the regulatory approval process. Moreover, our business may be adversely affected if any of these third parties violates federal or state fraud and abuse or false claims laws and regulations.

In addition, the FDA or comparable foreign regulatory authority may conclude that our financial relationships with principal investigators, some of whom we engage as consultants, have created a conflict of interest or otherwise affected interpretation of the study. The FDA or comparable foreign regulatory authority may therefore question the integrity of the data generated at the applicable clinical study site and the utility of the clinical study itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA or comparable foreign regulatory authority, as the case may be, and may ultimately lead to the denial of marketing approval of one or more of our product candidates.

Further, there is no guarantee that any such CROs, investigators or other third parties on which we rely will devote adequate time and resources to our development activities or perform as contractually required. These third parties may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical studies or other product development activities, which could affect their performance on our behalf. If independent investigators or CROs fail to devote sufficient resources to the development of our product candidates, or if CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, our clinical studies may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed or precluded entirely.

Our CROs have the right to terminate their respective agreements with us in the event of an uncured material breach. In addition, some of our CROs have an ability to terminate their respective agreements with us if it can be reasonably demonstrated that the safety of the subjects participating in our clinical studies warrants such termination, if we make a general assignment for the benefit of our creditors or if we are liquidated.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs or to do so on commercially reasonable terms. Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Additionally, CROs may lack the capacity to absorb higher workloads or take on additional capacity to support our needs. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

If we decide to establish new collaborations in the future, but are not able to establish those collaborations on commercially reasonable terms, we may have to alter our development and commercialization plans.

Our development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. We may seek to selectively form collaborations to expand our capabilities, potentially accelerate research and development activities and provide for commercialization activities by third parties. Any of these relationships may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders, or disrupt our management and business.

We may face significant competition in seeking appropriate collaborators and the related negotiation process is time-consuming and complex. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator’s resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator’s evaluation of a number of factors.

Those factors may include the design or results of clinical studies, the likelihood of approval by the FDA or comparable foreign regulatory authorities, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing drugs, the existence of uncertainty with respect to our ownership of intellectual property and industry and market conditions generally. The potential collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such collaboration could be more attractive than the one with us for our product candidate. Further, we may not be successful in our efforts to establish a collaboration or other alternative arrangements for future product candidates because they may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view them as having the requisite potential to demonstrate safety and efficacy.

In addition, there have been a significant number of recent business combinations among large companies in our industry that have resulted in a reduced number of potential future collaborators. Even if we are successful in entering into a collaboration, the terms and conditions of that collaboration may restrict us from entering into future agreements on certain terms with potential collaborators.

If and when we seek to enter into collaborations, we may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we may not be able to further develop our product candidates or bring them to market and generate product revenue.

We may enter into collaborations in the future with third parties for the development and commercialization of product candidates. If those collaborations are not successful, we may not be able to capitalize on the market potential of these product candidates.

We may seek third-party collaborators in the future for the development and commercialization of one or more of our product candidates. Our likely collaborators for any future collaboration arrangements include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies and biotechnology companies. We will likely have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of our product candidates. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities and efforts to successfully perform the functions assigned to them in these arrangements. Collaborations involving our product candidates could pose numerous risks to us, including the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations and may not perform their obligations as expected;
- collaborators may deemphasize or not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on clinical study results, changes in the collaborators' strategic focus, including as a result of a sale or disposition of a business unit or development function, or available funding or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators may delay clinical studies, provide insufficient funding for a clinical study program, stop a clinical study or abandon a product candidate, repeat or conduct new clinical studies or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates if the collaborators believe that competitive

products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;

- a collaborator with marketing and distribution rights to multiple products may not commit sufficient resources to the marketing and distribution of our product relative to other products;
- collaborators may not properly obtain, maintain, defend or enforce our intellectual property rights or may use our proprietary information and intellectual property in such a way as to invite litigation or other intellectual property related proceedings that could jeopardize or invalidate our proprietary information and intellectual property or expose us to potential litigation or other intellectual property related proceedings;
- disputes may arise between the collaborators and us that result in the delay or termination of the research, development or commercialization of our product candidates or that result in costly litigation or arbitration that diverts management attention and resources;
- collaborations may be terminated and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates;
- collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner or at all; and
- if a collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our drug development or commercialization program could be delayed, diminished or terminated.

Our employees, independent contractors, consultants, commercial collaborators, principal investigators, CROs, suppliers and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk that our employees, independent contractors, consultants, commercial collaborators, principal investigators, CROs, suppliers and vendors may engage in misconduct or other improper activities. Misconduct by these parties could include failures to comply with FDA or foreign regulations, provide accurate information to the FDA or comparable foreign regulatory agencies or notified bodies, comply with federal, state and foreign health care fraud and abuse and compliance laws and regulations, accurately report financial information or data or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the health care industry are subject to extensive laws and regulations intended to prevent fraud, submission of false claims, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting/rebating, marketing and promotion, consulting, sales commission, customer incentive programs and other business arrangements. Misconduct by these parties could also involve the improper use of information obtained in the course of clinical studies, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter misconduct by these parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant penalties, including civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, integrity oversight and reporting obligations, contractual damages, reputational harm, diminished profits and future earnings and the curtailment or restructuring of our operations.

Risks Related to Manufacturing

We contract with third parties for the manufacture of sub-assembly components for Revita and for the materials for our Rejuva gene therapy platform for preclinical studies and our ongoing clinical studies, and expect to continue to do so for additional clinical studies and ultimately for commercialization. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We do not currently have the infrastructure or internal capability to manufacture supplies of our product candidates for use in development and commercialization. We rely, and expect to continue to rely, on third-party manufacturers for the production of sub-assembly components for Revita and for the materials for our Rejuva gene therapy platform for preclinical and clinical studies under the guidance of members of our organization. We do not have long-term supply agreements. We manage the final assembly and testing of Revita at our headquarters located in Lexington, Massachusetts, except for the sterilization of the Revita DMR catheter, which is outsourced to a third party. Furthermore, the materials for our product candidates are sourced, in some cases, from a single-source supplier. If we were to experience an unexpected loss of supply of any of our product candidates or any of our future product candidates for any reason, whether as a result of manufacturing, supply or storage issues or otherwise, we could experience delays, disruptions, suspensions or terminations of, or be required to restart or repeat, any pending or ongoing clinical studies. For example, the extent to which the COVID-19 pandemic impacts our ability to procure sufficient supplies for the development of our products and product candidates will depend on the severity and duration of the spread of the virus, and the actions undertaken to contain COVID-19 or treat its effects.

We expect to continue to rely on third-party manufacturers for the commercial supply of any of our product candidates for which we obtain marketing approval. We may be unable to maintain or establish required agreements with third-party manufacturers or to do so on acceptable terms. Even if we are able to establish agreements with third-party manufacturers, reliance on third-party manufacturers entails additional risks, including:

- the failure of the third party to manufacture our product candidates according to our schedule, or at all, including if our third-party contractors give greater priority to the supply of other products over our product candidates or otherwise do not satisfactorily perform according to the terms of the agreements between us and them;
- the reduction or termination of production or deliveries by suppliers, or the raising of prices or renegotiation of terms;
- the termination or nonrenewal of arrangements or agreements by our third-party contractors at a time that is costly or inconvenient for us;
- the breach by the third-party contractors of our agreements with them;
- the failure of third-party contractors to comply with applicable regulatory requirements;
- the failure of the third party to manufacture our product candidates according to our specifications;
- the mislabeling of clinical supplies, potentially resulting in the wrong dose amounts being supplied or study drug or placebo not being properly identified;
- clinical supplies not being delivered to clinical sites on time, leading to clinical study interruptions, or of drug supplies not being distributed to commercial vendors in a timely manner, resulting in lost sales; and
- the misappropriation of our proprietary information, including our trade secrets and know-how.

We do not have complete control over all aspects of the manufacturing process of, and are dependent on, our contract manufacturing partners for compliance with cGMP or similar foreign regulations for manufacturing both active drug substances and finished drug products. For example, we are dependent on our contract manufacturing partners for the production of sub-assembly components of Revita, such as the Revita DMR catheter and Revita console. Third-party manufacturers may not be able to comply with cGMP regulations or similar regulatory requirements outside of the United States. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA others, they will not be able to secure and/or maintain marketing approval for their manufacturing facilities. In addition, we do not have control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain marketing approval for or market our product candidates, if approved. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or drugs, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates or drugs and harm our business and results of operations.

Our current and anticipated future dependence upon others for the manufacture of our product candidates or drugs may adversely affect our future profit margins and our ability to commercialize any product candidates that receive marketing approval on a timely and competitive basis.

If we or our suppliers fail to comply with the FDA's good manufacturing practice regulations, this could impair our ability to market our products in a cost-effective and timely manner.

We and our third-party suppliers and manufacturers are required to comply with the FDA's cGMPs, which in the case of medical devices is known as the Quality System Regulation, or QSR. The QSR covers the methods and documentation of the design, testing, production, control, quality assurance, labeling, packaging, sterilization, storage and shipping of our device product candidates. The FDA audits compliance with the QSR and similar cGMPs for biologics through periodic announced and unannounced inspections of manufacturing and other facilities. The FDA may conduct inspections or audits at any time. If we or our suppliers or manufacturers have significant non-compliance issues or if any corrective action plan that we or our suppliers propose in response to observed deficiencies is not sufficient, the FDA could take enforcement action, including any of the following sanctions:

- untitled letters, warning letters, fines, injunctions, consent decrees and civil penalties;
- customer notifications or repair, replacement, refunds, recall, detention or seizure of our products;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying approval of a PMA, BLA or supplements thereto for new products or modified products;
- withdrawing approvals that have already been granted;
- refusal to grant export approval for our products; or
- criminal prosecution.

Any of these sanctions could have a material adverse effect on our reputation, business, results of operations and financial condition.

Outside the United States, our products and operations are also often required to comply with standards set by industrial standards bodies, such as the International Organization for Standardization, or ISO. Foreign bodies may evaluate our products or the testing that our products undergo against these standards. The specific standards, types of evaluation and scope of review differ among foreign bodies. We intend to comply with the standards enforced by such foreign bodies as needed to commercialize our products. If we fail to adequately comply with any of these standards, a foreign body may take adverse actions similar to those within the power of the FDA. Any such action may harm our reputation and business, and could have an adverse effect on our business, results of operations and financial condition.

We depend on third-party sole-source suppliers for certain sub-assembly components of Revita, and any interruption in our relationship with such third-party sole-source suppliers may materially adversely affect our business.

We rely upon third-party suppliers for the manufacture of sub-assembly components of Revita. We do not have long-term supply agreements with any of our suppliers, some of which are single- or sole-source suppliers of the relevant sub-assembly component. For example, we order sub-assembly components on a purchase-order basis from several key suppliers. We have not yet identified and qualified second-source replacements for many of our critical single-source suppliers. Thus, in the event that our relationship with any of our single- or sole-source suppliers terminates in the future, we may have difficulty maintaining sufficient supplies of key sub-assembly components of our product candidate. We may also have difficulty obtaining similar sub-assembly components from other suppliers that are acceptable to the FDA or other regulatory agencies or notified bodies, and the failure of our suppliers to comply with strictly enforced regulatory requirements could expose us to regulatory action including warning letters, product recalls, termination of distribution, product seizures or civil penalties. Where practicable, we are currently seeking, or intend to seek, second-source manufacturers for our single-source components.

Changes in methods of our Rejuva gene therapy candidate manufacturing or formulation may result in additional costs or delay.

As gene therapy candidates proceed through preclinical studies to late-stage clinical studies towards potential approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and product characteristics. Such alterations can also occur due to changes in manufacturers. Such changes carry the risk that they will not achieve our intended objectives. Any such changes could cause our Rejuva gene therapy candidates to perform differently and affect the results of planned clinical studies or other future clinical studies conducted with the materials manufactured using altered processes. Such changes may also require additional testing, FDA notification or FDA approval. This could delay completion of clinical studies, require the conduct of bridging clinical studies or the repetition of one or more clinical studies beyond those we currently anticipate, increase clinical study costs, delay approval of our Rejuva gene therapy candidates and jeopardize our ability to commence sales and generate revenue. In addition, we may be required to make significant changes to our upstream and downstream processes across our pipeline, which could delay the development of any future gene therapy candidates.

Any contamination or interruption in our Rejuva gene therapy candidates' manufacturing process, shortages of raw materials or failure of our suppliers of plasmids and viruses to deliver necessary components could result in delays in our Rejuva gene therapy candidates' preclinical and clinical development or marketing schedules.

Given the nature of gene therapy manufacturing, there is a risk of contamination. Any contamination could adversely affect our ability to produce our Rejuva gene therapy candidates or future gene therapy candidates on schedule and could, therefore, harm our results of operations and cause reputational damage. Additionally, although our Rejuva gene therapy candidates will be tested for contamination prior to release, if a

contaminated product was administered to a patient in any future clinical studies, it could result in harm to the patient. Some of the raw materials required in the manufacturing process are derived from biologic sources. Such raw materials are difficult to procure and may be subject to contamination or recall. A material shortage, contamination, recall or restriction on the use of biologically derived substances in the manufacture of our Rejuva gene therapy candidates could adversely impact or disrupt the commercial manufacturing or the production of preclinical and clinical material, which could adversely affect our development timelines and our business, financial condition, results of operations and prospects.

If our facilities are damaged or become inoperable, we will be unable to continue to research, develop and manufacture our product candidates and, as a result, there will be an adverse impact on our business until we are able to secure a new facility.

We do not have redundant facilities. We currently perform substantially all of our research and development, manufacturing and back office activity and maintain most of our raw material and finished goods inventory in a single location in Lexington, Massachusetts. Our facility and equipment would be costly to replace and could require substantial lead time to repair or replace. The facility may be harmed or rendered inoperable by natural or man-made disasters, including, but not limited to, tornadoes, flooding, fire and power outages, which may render it difficult or impossible for us to perform our research, development, manufacturing and commercialization activities for some period of time. The inability to perform those activities, combined with our limited inventory of reserve raw materials and finished product candidates, may result in the inability to manufacture our product candidates during such periods and the delay of our ongoing or future clinical studies, including our ongoing Revitalize-1 pivotal clinical study of Revita. Although we possess insurance for damage to our property and the disruption of our business, this insurance may not be sufficient to cover all of our potential losses and this insurance may not continue to be available to us on acceptable terms, or at all.

Risks Related to Legal and Regulatory Compliance Matters

We face the risk of product liability claims that could be expensive, divert management's attention and harm our reputation and business. We may not be able to maintain adequate product liability insurance.

Our product candidates may contain undetected defects. Any such defects may prevent or impair our customers' ability to use our product candidates, if approved, and may damage our customers' businesses and could harm our reputation. If that occurs, we may incur significant costs, the attention of our key personnel could be diverted or other significant customer relations problems may arise. We may also be subject to warranty and liability claims for damages related to defects in our product candidates. A material liability claim or other occurrence that harms our reputation or decreases market acceptance of our product candidates could harm our business and operating results.

Our business exposes us to the risk of product liability claims that are inherent in the testing, manufacturing and marketing of medical devices or biopharmaceutical products. This risk exists even if a device is cleared, approved or certified for commercial sale by the FDA, foreign regulatory authorities or notified bodies and manufactured in facilities licensed and regulated by the FDA or an applicable foreign regulatory authority. Our products are designed to affect, and any future products will be designed to affect, important bodily functions and processes and may contain undetected defects. Any side effects, manufacturing defects, misuse or abuse associated with our products or our products in development could result in patient injury or death. The medical device and biopharmaceutical industries have historically been subject to extensive litigation over product liability claims, and we cannot offer any assurance that we will not face product liability suits. We may be subject to product liability claims if Revita or other products or product candidates cause, or merely appear to have caused, patient injury or death. In addition, an injury that is caused by the activities of our suppliers, such as those who provide us with sub-assembly components necessary to manufacture Revita, may be the basis for a claim against us. Product liability claims may be brought against us by consumers, healthcare providers or others selling or otherwise coming into contact with our products, among others. If we cannot successfully defend

ourselves against product liability claims, we will incur substantial liabilities and reputational harm. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- costs of litigation;
- distraction of management's attention from our primary business;
- the inability to commercialize our product candidates;
- decreased demand for our products or, if cleared, approved or certified, products in development;
- damage to our business reputation;
- product recalls or withdrawals from the market;
- withdrawal of clinical study participants;
- substantial monetary awards to patients or other claimants; or
- loss of revenue.

While we may attempt to manage our product liability exposure by proactively recalling or withdrawing from the market any defective products, any recall or market withdrawal of our products may delay the supply of those products to our customers and may impact our reputation. We can provide no assurance that we will be successful in initiating appropriate market recall or market withdrawal efforts that may be required in the future or that these efforts will have the intended effect of preventing product malfunctions and the accompanying product liability that may result. Such recalls and withdrawals may also be used by our competitors to harm our reputation for safety or be perceived by patients as a safety risk when considering the use of our products, either of which could have an adverse impact on our business.

In addition, although we have product liability and clinical study liability insurance that we believe is appropriate, this insurance is subject to deductibles and coverage limitations. Our current product liability insurance may not continue to be available to us on acceptable terms, if at all, and, if available, coverage may not be adequate to protect us against any future product liability claims. If we are unable to obtain insurance at an acceptable cost or on acceptable terms or otherwise protect against potential product liability claims, we could be exposed to significant liabilities. A product liability claim, recall or other claim with respect to uninsured liabilities or for amounts in excess of insured liabilities could have an adverse impact on our business.

We are subject to applicable fraud and abuse, transparency, and other healthcare laws and regulations. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

There are numerous U.S. federal and state, as well as foreign, laws pertaining to healthcare fraud and abuse, including anti-kickback, false claims and physician transparency laws. Our business practices and relationships with physicians, hospitals and other healthcare providers are subject to scrutiny under these laws. The laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibit any person or entity from, among other things, knowingly and willfully soliciting, receiving, offering or paying any remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of an item or service reimbursable, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. In addition, a person or entity does not need to have actual knowledge of the statute or specific

intent to violate it in order to have committed a violation. The U.S. government has interpreted this law broadly to apply to the marketing and sales activities of manufacturers. Violations of the federal Anti-Kickback Statute may result in significant civil monetary penalties, plus up to three times the remuneration involved. Civil penalties for such conduct can further be assessed under the federal False Claims Act. Violations can also result in criminal penalties, including significant criminal fines and imprisonment of up to 10 years. Similarly, violations can result in exclusion from participation in government healthcare programs, including Medicare and Medicaid. Moreover, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act;

- the federal civil and criminal false claims laws and civil monetary penalties laws, including the federal civil False Claims Act, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid or other federal healthcare programs that are false or fraudulent. These laws can apply to manufacturers who provide information on coverage, coding, and reimbursement of their products to persons who bill third-party payors. Private individuals can bring FCA "qui tam" actions, on behalf of the government and such individuals, commonly known as "whistleblowers," may share in amounts paid by the entity to the government in fines or settlement. When an entity is determined to have violated the federal civil FCA, the government may impose significant civil fines and penalties for each false claim, plus treble damages, and exclude the entity from participation in Medicare, Medicaid and other federal healthcare programs;

- the federal Civil Monetary Penalties Law, which prohibits, among other things, offering or transferring remuneration to a federal healthcare beneficiary that a person knows or should know is likely to influence the beneficiary's decision to order or receive items or services reimbursable by the government from a particular provider or supplier;

- the Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created additional federal criminal statutes that prohibit, among other things, executing a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;

- the federal transparency requirements under the Physician Payments Sunshine Act, created under the Affordable Care Act, which requires, among other things, certain manufacturers of drugs, devices, biologics and medical supplies reimbursed under Medicare, Medicaid, or the Children's Health Insurance Program to report to CMS information related to payments and other transfers of value provided to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician providers (physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists, anesthesiology assistants and certified nurse midwives), and teaching hospitals and physician ownership and investment interests, including such ownership and investment interests held by a physician's immediate family members;

- the FDCA, which prohibits, among other things, the adulteration or misbranding of drugs, biologics and medical devices;

- federal and state consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;

- state and foreign law equivalents of each of the above federal laws, such as anti-kickback and false claims laws, that may impose similar or more prohibitive restrictions, and may apply to items or services reimbursed by any non-governmental third-party payors, including private insurers; and

- state and foreign laws that require companies to implement compliance programs, comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, or to track and report pricing, gifts, compensation and other remuneration provided to physicians and other health care providers or marketing expenditures; and state and local laws that require the registration of medical device sales representatives.

These laws and regulations, among other things, constrain our business, marketing and other promotional and research activities by limiting the kinds of financial arrangements we may have with hospitals, physicians, and other healthcare providers and potential purchases of our products, when approved. We have entered into consulting agreements with physicians, including some who have ownership interests in us, which could be viewed as influencing the purchase of or use of our products in procedures they perform. Compensation under some of these arrangements includes the provision of stock or stock options. Due to the breadth of these laws, the narrowness of statutory exceptions and regulatory safe harbors available, and the range of interpretations to which they are subject, it is possible that some of our current or future practices might be challenged under one or more of these laws.

To enforce compliance with the healthcare regulatory laws, certain enforcement bodies have recently increased their scrutiny of interactions between medical device and pharmaceutical manufacturers and healthcare providers, which has led to a number of investigations, prosecutions, convictions and settlements in the healthcare industry. Responding to investigations can be time-and resource-consuming and can divert management's attention from the business. Additionally, as a result of these investigations, manufacturers may have to agree to additional compliance and reporting requirements as part of a consent decree or corporate integrity agreement. Any such investigation or settlement could increase our costs or otherwise have an adverse effect on our business, financial condition and results of operations. Even an unsuccessful challenge or investigation into our practices could cause adverse publicity, and be costly to respond to.

Any action brought against us for violations of these laws or regulations, even if successfully defended, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. We may be subject to private qui tam actions brought by individual whistleblowers on behalf of the federal or state governments, with potential liability under the federal False Claims Act including mandatory treble damages and significant per-claim penalties.

If our operations are found to be in violation of any of the federal, state and foreign laws described above or any other current or future fraud and abuse or other healthcare laws and regulations that apply to us, we may be subject to significant penalties, including significant criminal, civil, and administrative penalties, damages, fines, exclusion from participation in government programs, such as Medicare and Medicaid, imprisonment, contractual damages, reputation harm and disgorgement and we could be required to curtail, restructure or cease our operations. Any of the foregoing consequences will negatively affect our business, financial condition and results of operations.

Healthcare reform initiatives and other administrative and legislative proposals in the United States may adversely affect our business, financial condition, results of operations and cash flows.

There have been and continue to be proposals by the federal government, state governments, regulators, and third-party payors to control or manage the increased costs of healthcare and, more generally, to reform the United States healthcare system. Outside of the United States, foreign governments and regulatory authorities may implement new requirements that could impact our business and market acceptance. Certain of these

proposals could limit the prices we are able to charge for our products or limit coverage of, or lower reimbursement for, procedures associated with the use of our products , once approved, and could limit the acceptance and availability of our products. The cost containment measures that payors and providers are instituting and the effect of any healthcare reform initiative implemented in the future could impact our revenue from the sale of our products. The Affordable Care Act, or ACA, made a number of substantial changes in the way healthcare is financed by both governmental and private insurers. Among other ways in which it may affect our business, the ACA:

- imposed a new federal excise tax on the sale of certain medical devices, which was suspended, effective January 1, 2016, and permanently repealed in December 2019;
- established a new Patient-Centered Outcomes Research Institute to oversee and identify priorities in comparative clinical effectiveness research in an effort to coordinate and develop such research;
- implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models; and
- expanded the eligibility criteria for Medicaid programs.

Certain provisions of the ACA have been subject to judicial and Congressional challenges. While Congress has not passed comprehensive repeal legislation, bills affecting the implementation of certain taxes under the ACA have been signed into law, including the Tax Cuts and Jobs Act, enacted on December 22, 2017, or TCJA), which includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." Since its enactment, there have been judicial, executive and Congressional challenges to certain aspects of the ACA. On June 17, 2021, the U.S. Supreme Court dismissed the most recent judicial challenge to the ACA brought by several states without specifically ruling on the constitutionality of the ACA. Additionally, earlier in 2021, President Biden issued an executive order to initiate a special enrollment period to allow people to obtain health insurance coverage through the ACA marketplace, and instructs certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, among others. We cannot predict how the Supreme Court ruling, other litigation, or the healthcare reform measures of the Biden administration will impact our business.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011 was signed into law, which, among other things, includes reductions to Medicare payments to providers of, on average, 2% per fiscal year, which went into effect on April 1, 2013, which, due to subsequent legislative amendments, will stay in effect through 2032, unless additional congressional action is taken.

Additionally, the American Taxpayer Relief Act of 2012, among other things, reduced Medicare payments to several providers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. The Medicare Access and CHIP Reauthorization Act of 2015, or MACRA, enacted on April 16, 2015, repealed the formula by which Medicare made annual payment adjustments to physicians and replaced the former formula with fixed annual updates and a new system of incentive payments that are based on various performance measures and physicians' participation in alternative payment models such as accountable care organizations. It is unclear what effect new quality and payment programs, such as MACRA, may have on our business, financial condition, results of operations, or cash flows. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on customers for our products, once approved, and accordingly, our financial operations. We cannot assure you that the ACA, as currently enacted or as amended in the future, will not harm

our business and financial results, and we cannot predict how future federal or state legislative or administrative changes relating to healthcare reform will affect our business.

There has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. Although a number of these and other proposed measures may require authorization through additional legislation to become effective, and the current administration may reverse or otherwise change these measures, Congress has indicated that it will continue to seek new legislative measures to control drug costs.

The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

- the demand for our product candidates, if we obtain regulatory approval;
- our ability to set a price that we believe is fair for our approved products;
- our ability to generate revenue and achieve or maintain profitability;
- the level of taxes that we are required to pay; and
- the availability of capital.

We expect that other healthcare reform measures that may be adopted in the future may result in more rigorous coverage criteria and lower reimbursement and downward pressure on the price that we receive for our products, once approved. Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors. The implementation of cost-containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our products, once marketing clearance is obtained.

We may not be able to successfully commercialize our product candidates due to unfavorable pricing regulations or third-party coverage and reimbursement policies, which could make it difficult for us to sell our product candidates profitably.

Patients who receive treatment for their conditions, and their prescribing physicians, generally rely on third-party payors to reimburse all or part of the costs associated with those treatments. Patients are unlikely to use our product candidates, once approved, unless coverage is provided and reimbursement is adequate to cover all or a significant portion of the cost of our product candidates. Therefore, coverage and adequate reimbursement are critical to a new product's acceptance. Coverage decisions may depend upon clinical and economic standards that disfavor new products when more established or lower cost therapeutic alternatives are already available or subsequently become available.

Third-party payors, whether foreign or domestic, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products or procedures using these products. In the United States, there is no uniform policy among third-party payors for coverage and reimbursement. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting reimbursement policies, but also have their own methods and approval processes apart from Medicare coverage and reimbursement determinations. Therefore, one third-party payor's determination to provide coverage for a product does not assure that other payors will also provide coverage for the product or procedures that use the product.

Coverage and reimbursement by a governmental and other third-party payors may depend upon a number of factors, including the third-party payor's determination that use of a product or service and its use for a particular patient is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

Obtaining coverage and reimbursement approval for a product or procedure from a government or other third-party payor is a time-consuming and costly process, with uncertain results, that could require us to provide supporting scientific, clinical and cost effectiveness data for the use of our product candidates to the payor. We may not be able to provide data sufficient to satisfy governmental and third-party payors that procedures using our products should be covered and reimbursed. There may be significant delays in obtaining such coverage and reimbursement for newly approved product candidates or the related procedures, and coverage may not be available, or may be more limited than the purposes for which the product is approved by the FDA or comparable foreign regulatory authorities.

Reimbursement may not be available for procedures using any product that we commercialize and, if coverage and reimbursement are available, the level of reimbursement may not be adequate. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for procedures using any approved product candidates that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize product candidates and our overall financial condition.

Outside of the United States, many countries require approval of the sale price of a product before it can be marketed, and the pricing review period only begins after marketing or product licensing approval is granted. To obtain reimbursement or pricing approval in some of these countries, we may be required to conduct a clinical study that compares the cost-effectiveness of our product candidate to other available therapies. In some foreign markets, pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product candidate in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenue, if any, we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if such product candidates obtain marketing approval.

Changes in and actual or perceived failures to comply with U.S. and foreign privacy and data protection laws, regulations and standards may adversely affect our business, operations and financial performance.

We and our partners may be subject to federal, state, and foreign data protection laws and regulations (i.e., laws and regulations that govern data privacy and security). The legislative and regulatory landscape for privacy and data protection continues to evolve, and there has been an increasing focus on privacy and data protection issues, which may affect our business and may increase our compliance costs and exposure to liability. In the United States, numerous federal and state laws and regulations, including state security breach notification laws, federal and state health information privacy laws (including HIPAA), and federal and state consumer protection laws, govern the collection, use, disclosure, and protection of personal information. Each of these laws is subject to varying interpretations by courts and government agencies, creating complex compliance issues. If

we fail to comply with applicable laws and regulations we could be subject to penalties or sanctions, including criminal penalties if we knowingly obtain or disclose individually identifiable health information from a covered entity in a manner that is not authorized or permitted by HIPAA or applicable state laws.

We are subject to rapidly evolving data protection laws, rules and regulations in foreign jurisdictions. For example, the European Union General Data Protection Regulation, or the EU GDPR, governs certain collection and other processing activities involving personal data about individuals in the European Economic Area, or the EEA, and the UK General Data Protection Regulation and UK Data Protection Act 2018, or the UK GDPR, governs similar collection and other processing activities involving personal data about individuals in the United Kingdom. References to the GDPR in this prospectus include both the EU GDPR and the UK GDPR. Among other things, the GDPR imposes requirements regarding processing health and other sensitive data, obtaining informed consent of individuals, providing notice to individuals regarding data processing activities, responding to data subject requests, taking certain measures when engaging third-party processors, notifying data subjects and regulators of data breaches, implementing safeguards to protect the security and confidentiality of personal data, and strict rules and restrictions on the international transfers of personal data. The GDPR imposes substantial fines for breaches and violations, which can be up to the greater of €20 million (£17.5 million for the UK) or 4% of our annual global revenue and confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies and obtain compensation for damages resulting from violations of the GDPR. Further, the GDPR regulates transfers of personal data subject to the GDPR to third countries that have not been found to provide adequate protection to such personal data, including the United States in certain circumstances, unless a valid GDPR transfer mechanism (e.g., the European Commission approved Standard Contractual Clauses, or the EU SCCs, and the UK International Data Transfer Agreement/Addendum, or the UK IDTA) has been put in place. Where relying on the EU SCCs or UK IDTA for data transfers, we may also be required to carry out transfer impact assessments to assess whether the recipient is subject to local laws which allow public authority access to personal data, The efficacy and longevity of current transfer mechanisms between the EEA and the United States remains uncertain. The international transfer obligations under the EEA and UK data protection regimes will require significant effort and cost, and may result in us needing to make strategic considerations around where EEA and UK personal data is located and which service providers we can utilize for the processing of EEA and UK personal data. If we are unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations, and could adversely affect our financial results.

Although the UK is regarded as a third country under the EU GDPR, the European Commission has adopted an adequacy decision in favor of the UK, enabling data transfers from EEA member states to the UK without additional safeguards. The UK government has confirmed that personal data transfers from the UK to the EEA remain free flowing. The relationship between the UK and the EU in relation to certain aspects of data protection law remains unclear, and it is unclear how UK data protection laws and regulations will develop in the medium to longer term, and how data transfers to and from the UK will be regulated in the long term. Further, the UK Government has introduced a Data Protection and Digital Information Bill (“UK Bill”) into the UK legislative process. The aim of the UK Bill is to reform the UK’s data protection regime following Brexit. If passed, the final version of the UK Bill may have the effect of further altering the similarities between the UKand EEA data protection regime and threaten the UK adequacy decision from the European Commission. The respective provisions and enforcement of the EU GDPR and UK GDPR may further diverge in the future and create additional regulatory challenges and uncertainties. This lack of clarity on future UK laws and regulations and their interaction with EU laws and regulations could add legal risk, complexity and cost to our handling of personal data and our privacy and data security compliance programs and could require us to implement different compliance measures for the UK and the EEA.

Compliance with U.S. and foreign privacy and security laws, rules and regulations could require us to take on more onerous obligations in our contracts, require us to engage in costly compliance exercises, restrict our ability to collect, use and disclose data, or in some cases, impact our or our partners’ or suppliers’ ability to operate in certain jurisdictions. Each of these constantly evolving laws can be subject to varying interpretations.

If we fail to comply with any such laws, rules or regulations, we may face government investigations and/or enforcement actions, fines, civil or criminal penalties, private litigation or adverse publicity that could adversely affect our business, financial condition and results of operations.

Risks Related to Our Intellectual Property

We rely on a variety of intellectual property rights, and if we are unable to obtain, maintain or protect our intellectual property, our business, financial situation, results of operations, and prospects will be harmed. If we are unable to obtain and maintain patent protection for our current product candidate, any future product candidates we may develop and our technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our current product candidate, any future product candidates we may develop and our technology may be adversely affected.

Our commercial success will depend, in part, on our ability to obtain and maintain intellectual property protection for our product candidates and related technologies, including Revita, both in the United States and elsewhere, successfully defend our intellectual property rights against third-party challenges and successfully enforce our intellectual property rights to prevent third-party infringement. As with other medical device companies, we rely primarily upon a combination of patents, trademarks and trade secret protection, as well as nondisclosure, confidentiality and other contractual agreements, to protect the intellectual property related to our brands, products and other proprietary technologies.

We cannot provide any assurances that any of our pending patent applications will mature into issued patents and, if they do, that such patents will include, claims with a scope sufficient to protect our product candidates or otherwise provide any competitive advantage. Our patents and any patent issuing from any of our patent applications would not prevent third-party competitors from creating, making and marketing alternative systems, devices and/or methods capable of performing similar procedures that fall outside the scope of our patent claims. There can be no assurance that any such alternative systems, devices and methods will not be equally effective as ours or that we will be able to obtain or maintain patent protection at all. Moreover, other parties have developed technologies that may be related to or competitive with our approach, and may have filed or may file patent applications and may have received or may receive patents that may overlap or conflict with our patents or patent applications. Such third-party patent positions may limit or even eliminate our ability to obtain or maintain patent protection for certain inventions. Additionally or alternatively, such third-party patent rights may represent alternative or pre-existing technologies not protected by our own intellectual property that could be used to compete with us.

Our success depends, in part, on our ability to obtain, maintain, expand, enforce, and defend the scope of our patent portfolio or other intellectual property rights, including the amount and timing of any payments we may be required to make in connection with the filing, defense and enforcement of any patents or other intellectual property rights. The process of obtaining patent protection is expensive and time-consuming, and we may not be able to file or prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may choose not to seek patent protection for certain innovations or product candidates and may choose not to pursue patent protection in certain jurisdictions. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, under the laws of certain jurisdictions, patents or other intellectual property rights may be unavailable or limited in scope and, in any event, any patent protection we obtain may be limited. For example, under the laws of many jurisdictions, patent protection is not available or is limited for surgical methods and certain other medical procedures. As a result, some of our product candidates may not be protected by patents in one or more jurisdictions, or, possibly, in any jurisdiction. We generally apply for patents in those countries where we intend to make, have made, use or sell product candidates and where we assess the risk of infringement to justify the cost of seeking patent protection. However, we do not and will not seek protection in all countries where we intend to sell product candidates and we may not accurately predict all the countries where patent protection

would ultimately be desirable. If we fail to timely file a patent application in any such country or major market, we may be precluded from doing so at a later date. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories in which we have patent protection that may not be sufficient to terminate infringing activities. Several of our pending patent applications are in the early stages, and the deadline for deciding whether and in which jurisdictions to pursue protection has not yet expired for those applications. Prior to the applicable deadlines, we will need to decide whether and where to pursue protection, and we will not have the opportunity to obtain protection in jurisdictions where we elect not to seek protection. For other of our pending applications, the applicable timelines for deciding where to seek protection have passed, and we have made decisions, on an application-by-application basis, to pursue protection for each of those applications in a limited number of jurisdictions.

Furthermore, we cannot guarantee that any patents will be issued from any pending or future patent applications, or that any current or future patents, will provide us with any meaningful protection or competitive advantage. Even if issued, patents may be challenged, including with respect to ownership, narrowed, invalidated, held unenforceable or circumvented, any of which could limit our ability to prevent competitors and other third parties from developing and marketing similar products or limit the duration of patent protection we may have for our product candidates and technologies. Other companies may also design around technologies we have patented or developed. In addition, the issuance of a patent does not give us the right to practice the patented invention. Third parties may have blocking patents that could prevent us from marketing our product candidates or practicing our own patented technology, including Revita. The risks described herein with respect to patents and patent applications we own similarly apply to any patents or patent applications that we may license in the future. These and other factors may prevent us from realizing any competitive advantage from patents.

The strength of patent rights generally, and particularly the patent positions of medical device companies, can be highly uncertain and involve complex legal, scientific and factual questions for which important legal principles remain unresolved. The standards that the United States Patent and Trademark Office, or the USPTO, and its foreign counterparts use to grant patents are not always applied predictably or uniformly. Changes in either the patent laws, implementing regulations or the interpretation of patent laws may diminish the value of our rights. The legal systems of certain countries do not protect intellectual property rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions.

Because patent applications in the United States, Europe and many other jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in scientific literature lag behind actual discoveries, we cannot be certain that we were the first to make the inventions claimed in our pending patent applications, or that we were the first to file for protection of the inventions set forth in our applications. We can give no assurance that all of the potentially relevant prior art relating to our patents or patent applications has been found; overlooked prior art could be used by a third-party to challenge the validity, enforceability and scope of our patents, or prevent a patent from issuing from a pending patent application. As a result, we may not be able to obtain or maintain protection for certain inventions. Therefore, the validity, enforceability and scope of our patents in the United States, Europe and in other countries cannot be predicted with certainty and, as a result, any patents that we own or license may not provide sufficient protection against our competitors.

The issuance of a patent is not conclusive as to its inventorship, ownership, scope, validity or enforceability. Third parties may challenge any existing patent or future patent we own or license through adversarial proceedings in the issuing offices or in court proceedings, including as a response to any assertion of our patents against them. In any of these proceedings, a court or agency with jurisdiction may find our patents invalid and/or unenforceable, or even if valid and enforceable, insufficient to provide protection against competing products and services to achieve our business objectives. We may be subject to a third-party pre-issuance submission of prior art to the USPTO, or reexamination by the USPTO if a third-party asserts a

substantial question of patentability against any claim of a U.S. patent we own or license. The adoption of the Leahy-Smith America Invents Act, or the Leahy-Smith Act, in September 2011 established additional opportunities for third parties to invalidate U.S. patent claims, including *inter partes* review and post-grant review proceedings. Outside of the United States, patents we own or license may become subject to patent opposition or similar proceedings, which may result in loss of scope of some claims or the entire patent. Competitors may claim that they invented the inventions claimed in our patents or pending applications prior to the inventors of our intellectual property, or may have filed for protection for certain inventions before we did. We may need to participate in interference or derivation proceedings, which may result in the loss of some or all of the patent protection at issue. Furthermore, an adverse decision in an interference or derivation proceeding can result in a third party receiving the patent right sought by us, which in turn could affect our ability to develop, market or otherwise commercialize our product candidates. Any of these proceedings may be very complex and expensive, and may divert our management's attention from our core business. If any of our patents, should they issue, are challenged, invalidated, circumvented by third parties or otherwise limited or expire prior to the commercialization of our product candidates, and if we do not own or have exclusive rights to other enforceable patents protecting our product candidates or other technologies, competitors and other third parties could market products and use processes that are substantially similar or identical to, or superior to, ours and our business would suffer.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents on product candidates or the related technologies in all countries and jurisdictions throughout the world would be prohibitively expensive, and we will only pursue patent protection in selected jurisdictions outside the United States. The requirements for patentability differ in various countries. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States, and the laws of some foreign countries do not provide patent protection for certain types of inventions that are patentable in the United States. As a result, certain aspects of our technology may not be protectable by patents or may be difficult to protect in certain jurisdictions outside the United States, including in Europe, and our intellectual property rights outside the United States could be less extensive than those in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. The statutory deadlines for pursuing patent protection in individual foreign jurisdictions are based on the priority date of each of our patent applications. For some of the patent families owned by us, the relevant statutory deadlines have not yet expired, and we will need to decide whether and where to pursue protection outside the United States before expiration of the applicable deadlines. For other of the patent families owned by us, the relevant statutory deadlines have expired, and thus, we will only have the opportunity to pursue protection in the limited jurisdictions previously selected.

Competitors may use our technologies in jurisdictions where we do not pursue and obtain patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products, if approved, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Even if we pursue and obtain issued patents in particular jurisdictions, our patent claims or other intellectual property rights may not be effective or sufficient to prevent third parties from so competing.

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection,

especially those relating to medical technology. For example, an April 2021 report from the Office of the United States Trade Representative identified a number of countries, including India and China, where challenges to the procurement and enforcement of patent rights have been reported. Several countries, including India and China, have been listed in the report every year since 1989. This could make it difficult for us to stop the infringement of our patents or the misappropriation or other violation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government contractors. In these countries, patents may provide limited or no benefit. Patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries.

Furthermore, proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. We may choose not to initiate lawsuits because the expected benefit is not sufficient. Accordingly, our efforts to enforce our intellectual property rights outside the United States may be inadequate to obtain a significant commercial advantage from the intellectual property.

Intellectual property litigation could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

The medical device industry has been characterized by extensive litigation regarding patents, trademarks, trade secrets, and other intellectual property rights, and companies in the industry have used intellectual property litigation to gain a competitive advantage. Litigation or other legal proceedings related to intellectual property claims, with or without merit, is unpredictable and generally expensive and time-consuming. Competitors may infringe our patents, should they issue, or other intellectual property, or we may be required to defend against claims of infringement, misappropriation or other violation of third party intellectual property. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that our patents are invalid or unenforceable or that we infringe their intellectual property. In addition, in a patent infringement proceeding, a court may decide that a patent of ours is invalid or unenforceable, in whole or in part, construe the patent's claims narrowly or refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly, which could adversely affect our competitive business position, business prospects and financial condition.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities.

We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual

property portfolios. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing, misappropriating, or otherwise violating, or successfully challenging our intellectual property rights. Uncertainties resulting from the initiation or continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

Our commercial success depends significantly on our ability to operate without infringing, misappropriating or otherwise violating the intellectual property rights of third parties.

The medical device industry is subject to rapid technological change and substantial litigation regarding patent and other intellectual property rights. Our competitors in both the United States and abroad, many of which have substantially greater resources and have made substantial investments in patent portfolios and competing technologies, may have applied for or obtained or may in the future apply for and obtain, patents that will prevent, limit or otherwise interfere with our ability to make, use, market and sell our product candidates and technology.

Numerous third-party patents exist in the fields relating to our product candidates, and it is difficult for industry participants, including us, to identify all third-party patent rights relevant to our product candidates and technologies. There may be issued U.S. or European patents of which we are not aware, held by our competitors or third parties that, if found to be valid and enforceable, could be alleged to be infringed by some of our product candidates or technologies, including Revita. There may be patents of which we are not aware, that if they result in issued patents, could be alleged to be infringed by some of our product candidates or technologies, including Revita. Moreover, because some patent applications are maintained as confidential for a certain period of time, we cannot be certain that third parties have not filed patent applications that cover our product candidates and technologies.

It is also possible that we have failed to identify relevant third-party patents or applications. For example, it is difficult for industry participants, including us, to identify all third-party patent rights that may be relevant to our product candidates or technology because database searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims. We may fail to identify relevant patents or patent applications or may identify pending patent applications of potential interest but incorrectly predict the likelihood that such patent applications may issue with claims of relevance to our product candidates or technology. In addition, we may be unaware of one or more issued patents that would be infringed by the manufacture, sale or use of a current or future product candidate, or we may incorrectly conclude that a third-party patent is invalid, unenforceable or not-infringed by our activities. Additionally, pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our product candidates and technologies. After issuance, the scope of patent claims remains subject to construction as determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our product candidates. Our determination of the expiration date of any patent in the United States, the European Union or elsewhere that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates.

Patents could be issued, now or in the future, to third parties that we may ultimately be found to infringe. Third parties may have or obtain valid and enforceable patents or proprietary rights that could block us from developing product candidates using our technology. Our failure to obtain or maintain a license to any technology that we require may materially harm our business, financial condition, results of operations and prospects. Furthermore, we would be exposed to a threat of litigation. In addition, we may be required or choose to enter into a license agreement to avoid or settle litigation.

Intellectual property rights of third parties could adversely affect our ability to commercialize our product candidates, and we might be required to litigate or obtain licenses from third parties in order to develop or market our product candidates. Such litigation or licenses could be costly or not available on commercially reasonable terms.

From time to time, we may be party to, or threatened with, litigation or other proceedings with third parties, including non-practicing entities, who allege that our product candidates, components of our product candidates and/or proprietary technologies infringe, misappropriate or otherwise violate their intellectual property rights. The types of situations in which we may become a party to such litigation or proceedings include:

- we may initiate litigation or other proceedings against third parties seeking to invalidate the patents held by those third parties or to obtain a judgment that our product candidates, technologies, or processes do not infringe those third parties' patents;
- we may participate at substantial cost in International Trade Commission proceedings to abate importation of products or product candidates that would compete unfairly with our product candidates;
- if our competitors file patent applications that claim technology also claimed by us, we may be required to participate in interference, derivation or opposition proceedings to determine the priority of invention, which could jeopardize our patent rights and potentially provide a third-party with a dominant patent position;
- if third parties initiate litigation claiming that our processes or product candidates infringe their patent or misappropriate or otherwise violate other intellectual property rights, we will need to defend against such proceedings;
- if third parties initiate litigation or other proceedings seeking to invalidate patents owned by us or to obtain a declaratory judgment that their product or technology does not infringe our patents, we will need to defend against such proceedings;
- we may be subject to ownership disputes relating to intellectual property, including disputes arising from conflicting obligations of employees or consultants or others who are involved in developing our product candidates; and
- if a license to necessary technology is terminated, the licensor may initiate litigation claiming that our processes or product candidates infringe their patent or misappropriate or otherwise violate other intellectual property rights and/ or that we breached our obligations under the license agreement, and we would need to defend against such proceedings.

These lawsuits and proceedings, regardless of merit, are time-consuming and expensive to initiate, maintain, defend or settle, and could divert the time and attention of managerial and technical personnel, which could materially adversely affect our business. Any such claim could also force use to do one or more of the following:

- incur substantial monetary liability for infringement, appropriation or other violations of intellectual property rights, which we may have to pay if a court decides that the product candidate or technology at issue infringes, misappropriates or violates the third party's rights, and if the court finds that the infringement was willful, we could be ordered to pay treble damages and the third party's attorneys' fees;
- pay substantial damages to our customers or end users to discontinue use or replace infringing technology with non-infringing technology;

- stop manufacturing, selling, using, exporting or licensing the product candidate or technology incorporating the allegedly infringing technology or stop incorporating the allegedly infringing technology into such product candidate or technology;
- obtain from the owner of the infringed intellectual property right a license, which may require us to pay substantial upfront fees or royalties to sell or use the relevant technology and which may not be available on commercially reasonable terms, or at all;
- redesign our product candidates and technology so they do not infringe, misappropriate or violate the third party's intellectual property rights, which may not be possible or may require substantial monetary expenditures and time;
- enter into cross-licenses with our competitors, which could weaken our overall intellectual property position;
- lose the opportunity to license our technology to others or to collect royalty payments based upon successful protection and assertion of our intellectual property against others;
- find alternative suppliers for non-infringing product candidates and technologies, which could be costly and create significant delay; or
- relinquish rights associated with one or more of our patent claims, if our claims are held invalid or unenforceable.

The medical device industry is characterized by extensive litigation regarding patents and other intellectual property rights. As we continue to develop and, if approved, commercialize our current product candidates and future product candidates, competitors may claim that our products, product candidates or technology infringe, misappropriate or otherwise violate their intellectual property rights as part of business strategies designed to impede our successful commercialization. As we gain greater visibility and market exposure as a public company, the risk increases that our product candidates or technologies may be subject to claims of infringement, misappropriation or other violation of the intellectual property rights of third parties. There may be third-party patents or patent applications with claims related to a product candidate or our technology, such as to Revita. Because patent applications can take many years to issue, third parties may have currently pending patent applications that may later result in issued patents that our product candidates may infringe, or which such third parties claim are infringed by our technologies. The outcome of intellectual property litigation is subject to uncertainties that cannot be adequately quantified in advance. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we are sued for patent infringement, to prevail, we would need to demonstrate that our product candidates, products, technologies or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid or unenforceable, and we may not be able to do this. Even if we are successful in these proceedings, we may incur substantial costs and the time and attention of our management and scientific personnel could be diverted in pursuing these proceedings. Some of our competitors may be able to sustain the costs of complex intellectual property litigation more effectively than we can because they have substantially greater resources. In addition, intellectual property litigation, regardless of its outcome, may cause negative publicity, adversely impact prospective customers, cause shipment delays of product candidates, or prohibit us from manufacturing, marketing or otherwise commercializing our product candidates and technology. Any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise additional funds or otherwise have a material adverse effect on our business, results of operation, financial condition or cash flows.

In addition, we may indemnify our customers and distributors against claims relating to the infringement of intellectual property rights of third parties related to our product candidates or technologies. Third parties may assert

infringement claims against our customers or distributors. These claims may require us to initiate or defend protracted and costly litigation on behalf of our customers or distributors, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers, suppliers or distributors, or may be required to obtain licenses for the products they use. If we cannot obtain all necessary licenses on commercially reasonable terms, our customers may be forced to stop using our product candidates.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. There could also be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock. The occurrence of any of these events may have a material adverse effect on our business, results of operation, financial condition, prospects or cash flows.

Changes in patent law could diminish the value of patents in general, thereby impairing our ability to protect our existing and future product candidates and technologies.

Patent reform legislation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our patents. On September 16, 2011, the Leahy-Smith America Invents Act or the Leahy-Smith Act was signed into law. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art, and may also affect patent litigation. The USPTO developed new regulations and procedures to govern administration of the Leahy-Smith Act, including switching the United States patent system from a "first-to-invent" system to a "first-to-file" system. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to the patent on an invention regardless of whether another inventor had made the invention earlier. For example, a third party that files a patent application before us at the USPTO could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application and be diligent in filing patent applications, but circumstances could prevent us from promptly filing patent applications on our inventions. Additional provisions of the Leahy-Smith Act allow third-party submission of prior art to the USPTO during patent prosecution and set forth additional procedures to attack the validity of a patent through various proceedings, including post-grant review and inter partes review proceedings, administered by the USPTO. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. It is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. The Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our patents, should they issue, all of which could have a material adverse effect on our business, results of operation, financial condition or cash flows.

In addition, patent reform legislation may pass in the future that could lead to additional uncertainties and increased costs surrounding the prosecution, enforcement and defense of our patents and applications. Furthermore, the U.S. Supreme Court and the U.S. Court of Appeals for the Federal Circuit have made, and will likely continue to make, changes in how the patent laws of the United States are interpreted. Similarly, foreign courts have made, and will likely continue to make, changes in how the patent laws in their respective jurisdictions are interpreted. We cannot predict future changes in the interpretation of patent laws or changes to patent laws that might be enacted into law by United States and foreign legislative bodies. Those changes may materially affect our patents or patent applications and our ability to obtain additional patent protection in the future.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and various foreign patent offices require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. Periodic maintenance fees, renewal fees, annuity fees and various government fees are due to be paid to governmental patent agencies over the lifetime of a patent. Future maintenance fees will also need to be paid on other patents that may be issued to us. We have systems in place to remind us to pay these fees, and we employ outside firms to remind us or our licensor to pay annuity fees due to patent agencies on our patents and pending patent applications. In certain cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market and this circumstance would have a material adverse effect on our business, results of operation, financial condition, prospects or cash flows.

Patent terms may not be sufficient to effectively protect our product candidates and business for an adequate period of time.

Patents have a limited lifespan. In the United States, the natural expiration of a utility patent is generally 20 years after its first effective non-provisional filing date. Although various extensions may be available, the term of a patent, and the protection it affords, is limited. Even if patents covering our product candidates, proprietary technologies and their uses are obtained, once the patent has expired, we may be open to competition, which may harm our business prospects. In addition, although upon issuance in the United States a patent's term can be extended based on certain delays caused by the USPTO, this extension can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. Given the amount of time required for the development, testing and regulatory review of new products, patents protecting such products might expire before or shortly after such products are commercialized. If we do not have sufficient patent terms to protect our products, proprietary technologies and their uses, our business would be seriously harmed. As our patents expire, the scope of our patent protection will be reduced, which may reduce or eliminate any competitive advantage afforded by our patent portfolio. As a result, our reduced patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

We rely on trademarks and tradenames to distinguish our product and technology from the products of our competitors. Our registered or unregistered trademarks or trade names may be challenged, opposed, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we rely on to build name recognition among potential partners and customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks, such as those that incorporate variations of our registered or unregistered trademarks or trade names. An adverse decision in a trademark or trade name suit may subject us to damages, and may result in the need to redesign or rename the infringing brand, which could be costly and time-consuming. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. Moreover, as our products mature, our reliance on our trademarks to differentiate us from our competitors will increase, and as a result, if we are unable to prevent third parties from adopting, registering or using trademarks and trade dress that infringe, dilute or otherwise violate our trademark rights, or engaging in conduct that constitutes unfair

competition, defamation or other violation of our rights, our business could be materially adversely affected. We may license our trademarks and trade names to third parties, such as distributors. Though these license agreements may provide guidelines for how our trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names. Our efforts to enforce or protect our proprietary rights related to trademarks and trade names, may be ineffective and could result in substantial costs and diversion of resources and could adversely impact our financial condition or results of operations.

If we are unable to protect the confidentiality of our trade secrets and other proprietary information, our business and competitive position may be harmed.

In addition to patent protection, we also rely on confidential proprietary information, including trade secrets and know-how, to develop and maintain our competitive position. However, trade secrets and other proprietary information can be difficult to protect and some courts are less willing or unwilling to protect trade secrets and proprietary information. We seek to protect our confidential proprietary information, in part, by entering into confidentiality agreements with our employees, consultants, vendors, collaborators and others, upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential. Our agreements with employees, business consultants, and our personnel policies, also provide that any inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. However, we may not obtain these agreements in all circumstances, the assignment of intellectual property rights may not be self-executing, and individuals with whom we have these agreements may not comply with their terms or may have preexisting or competing obligations to third parties of which we are not aware. Thus, despite such agreements, such inventions may become assigned to third parties. Monitoring unauthorized uses and disclosures of our intellectual property is difficult, and we do not know whether the steps we have taken to protect our intellectual property will be effective. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know-how owned by third parties in their work for us, disputes may arise between us and those third parties as to the rights in related inventions. To the extent that an individual who is not obligated to assign rights in intellectual property to us is rightfully an inventor of intellectual property, we may need to obtain an assignment or a license to that intellectual property from that individual, or a third-party or from that individual's assignee. Such assignment or license may not be available on commercially reasonable terms or at all, and the failure to obtain rights in such intellectual property by assignment or license could have a material adverse effect on our business.

Adequate remedies may not exist in the event of unauthorized use or disclosure of our proprietary information. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. We and our contractors and partners operate in certain countries that are at heightened risk of theft of technology, data and intellectual property through direct or indirect intrusion by private parties or international actors, including those affiliated with or controlled by state actors. The disclosure of our trade secrets would impair our competitive position and may materially harm our business, financial condition and results of operations. Further, it is possible that others will independently develop the same or similar technology or otherwise obtain access to our unpatented technology, and in such cases we could not assert any trade secret rights against such parties. Costly and time consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to maintain trade secret protection could adversely affect our competitive business position. In addition, others may independently discover or develop our trade secrets and proprietary information, and the existence of our own trade secrets affords no protection against such independent discovery.

We also seek to preserve the integrity and confidentiality of our data and other confidential information by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures

may be breached and detecting the disclosure or misappropriation of confidential information and enforcing a claim that a party illegally disclosed or misappropriated confidential information is difficult, expensive and time-consuming, and the outcome is unpredictable. Further, we may not be able to obtain adequate remedies for any breach.

We may be subject to claims asserting that our employees, consultants or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting ownership of what we regard as our own intellectual property.

We may also employ individuals, such as employees, consultants or advisors, who were previously or are concurrently employed at or providing consulting services for research institutions and/or other medical device companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and advisors do not use the intellectual property, proprietary information, know-how or trade secrets of others in their work for us, we may be subject to claims that these employees, consultants or advisors, or we, have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former or concurrent employers, or that patents and applications we have filed to protect inventions of these employees, consultants or advisors, even those related to one or more of our product candidates or technologies, are rightfully owned by their former or concurrent employer. Additionally, we may be subject to claims from third parties challenging our ownership interest in intellectual property we regard as our own, based on claims that our employees, consultants or advisors have breached an obligation to assign inventions to another employer, to a former employer, or to another person or entity. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable personnel or intellectual property rights. An inability to incorporate such technologies or features would have a material adverse effect on our business and may prevent us from successfully commercializing our product candidates. Moreover, any such litigation or the threat thereof may adversely affect our ability to hire employees or contract with independent contractors. A loss of key personnel or their work product could hamper or prevent our ability to commercialize our product candidates, which would have an adverse effect on our business, results of operations and financial condition.

We may enter into licenses to intellectual property. If we were to lose our rights to licensed intellectual property, we may not be able to continue developing or commercializing a product candidate, if approved, that relied on such licensed intellectual property.

We may in the future be party to license agreements under which we are granted rights to material intellectual property that is important to our business. We would expect any such license agreements to impose various obligations on us, including but not limited to, diligence obligations and the payment of milestones and/or royalties. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to market products covered by the license. Our business could suffer, for example, if any material licenses terminate, if the licensors fail to abide by the terms of the license, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms.

We may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we cannot provide any assurances that third-party patents or other forms intellectual property do not exist that might be enforced against our current product candidates or future products in the absence of such a license. We may fail to obtain any of these licenses on commercially reasonable terms, if at all. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors

access to the same technologies licensed to us. In that event, we may be required to expend significant time and resources to develop or license replacement technology. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, which could materially harm our business and the third parties owning such intellectual property rights could seek either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties or other forms of compensation.

Additionally, we may collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. These institutions may provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to others, potentially blocking our ability to pursue our program. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

We may not have the right to control the preparation, filing, prosecution, maintenance, enforcement, and defense of patents and patent applications covering the drug candidates that we license from third parties. It is possible that the licensors' infringement proceeding or defense activities may be less vigorous than if we conduct them ourselves. Therefore, we cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained, enforced, and defended in a manner consistent with the best interests of our business. If our licensors fail to prosecute, maintain, enforce and defend such patents, or lose rights to those patents or patent applications, the rights we have licensed may be reduced or eliminated, and our right to develop and commercialize any of our drugs that are subject of such licensed rights could be adversely affected.

Licensing of intellectual property involves complex legal, business and scientific issues. Disputes may arise between us and our licensors regarding intellectual property subject to a license agreement, including:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our right to transfer or assign the license;
- our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations;
- the priority of invention of patented technology; and
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners.

In addition, license agreements are often complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology or broaden what we believe to be the scope of a licensor's rights to our intellectual property and technology, or increase what we believe to be our financial or other obligations under a relevant agreement, any of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. If

disputes over intellectual property impair our ability to maintain any future licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates. Furthermore, certain of our future agreements with third parties may limit or delay our ability to consummate certain transactions, may impact the value of those transactions, or may limit our ability to pursue certain activities. For example, we may in the future enter into license agreements that are not assignable or transferable, or that require the licensor's express consent in order for an assignment or transfer to take place.

Numerous factors may limit any potential competitive advantage provided by our intellectual property rights.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, provide a barrier to entry against our competitors or potential competitors, or permit us to maintain any competitive advantage. Moreover, if a third party has intellectual property rights that cover a product candidate or the practice of our technology, such as Revita, we may not be able to fully exercise or extract value from our intellectual property rights. We cannot ensure that:

- any of our pending patent applications, if issued, will include claims having a scope sufficient to protect our product candidates or otherwise provide any competitive advantage;
- any of our pending patent applications will issue as patents at all;
- we were the first to make inventions covered by any of our existing patent applications;
- we were the first to file patent applications for our inventions;
- we have not omitted that should be listed as inventors or included individuals that should not be listed as inventors in our patents and patent applications, which may cause these patents or patents issuing from these patent applications to be held invalid or unenforceable;
- others will not develop similar or alternative technologies that do not infringe our intellectual property, incorporate technology from the public domain, or will otherwise be able to design around our patents, should they issue;
- others will not use preexisting technology to effectively compete against us;
- any of our patents, if issued, will ultimately be found to be valid and enforceable;
- there are no prior public disclosures that could invalidate our patents, or parts of our patents;
- that there are no unpublished, third-party patent applications or applications maintained in secrecy that may later issue with claims covering our product candidate or technology;
- third parties will not compete with us in jurisdictions where we do not pursue and obtain patent protection;
- the laws of foreign countries will protect our proprietary rights to the same extent as the laws of the United States;
- the inventors of our patents or patent applications will not become involved with competitors to develop products or processes that design around our patents;
- any patents issued to us will provide a basis for an exclusive market for our commercially-viable products, if approved, or provide us with any competitive advantages, or will not be challenged by third parties; or

- our commercial activities or products will not infringe upon the patents or proprietary rights of others.

Should any of these events occur, they could significantly harm our business and results of operations.

Risks Related to Employee Matters and Managing Our Growth

If we are unable to establish sales or marketing capabilities or enter into agreements with third parties to sell or market our product candidates, we may not be able to successfully sell or market our product candidates that obtain regulatory approval.

We currently do not have and have never had a marketing or sales team. In order to commercialize any product candidates, if approved, we must build marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services for each of the territories in which we may have approval to sell or market our product candidates. We may not be successful in accomplishing these required tasks.

Establishing an internal sales or marketing team with technical expertise and supporting distribution capabilities to commercialize our product candidates will be expensive and time-consuming, and will require significant attention of our executive officers to manage. Any failure or delay in the development of our internal sales, marketing and distribution capabilities could adversely impact the commercialization of any of our product candidates that we obtain approval or certification to market, if we do not have arrangements in place with third parties to provide such services on our behalf. Alternatively, if we choose to collaborate, either globally or on a territory-by-territory basis, with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems, we will be required to negotiate and enter into arrangements with such third parties relating to the proposed collaboration. If we are unable to enter into such arrangements when needed, on acceptable terms, or at all, we may not be able to successfully commercialize any of our product candidates that receive regulatory approval or certification or any such commercialization may experience delays or limitations. If we are unable to successfully commercialize our approved product candidates, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses.

Our success is highly dependent on our ability to attract and retain highly skilled executive officers and employees.

To succeed, we must recruit, retain, manage and motivate qualified clinical, scientific, technical and management personnel, and we face significant competition for experienced personnel. We are highly dependent on the principal members of our management and scientific and medical staff. In particular, we are highly dependent on the management and business expertise of Harith Rajagopalan, M.D., Ph.D., our Chief Executive Officer, Jay D. Caplan, our President and Chief Product Officer, and Lisa A. Davidson, our Chief Financial Officer, each of whom is employed by us at will. If we do not succeed in attracting and retaining qualified personnel, particularly at the management level, it could adversely affect our ability to execute our business plan and harm our results of operations. In particular, the loss of one or more of our executive officers could be detrimental to us if we cannot recruit suitable replacements in a timely manner. The competition for qualified personnel in the medical device and pharmaceutical industries is intense and as a result, we may be unable to continue to attract and retain qualified personnel necessary for the future success of our business. We could in the future have difficulty attracting experienced personnel to our company and may be required to expend significant financial resources in our employee recruitment and retention efforts.

Many of the other medical device and pharmaceutical companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry

than we do. They also may provide more diverse opportunities and better prospects for career advancement. Some of these characteristics may be more appealing to high-quality candidates than what we have to offer. If we are unable to continue to attract and retain high-quality personnel, the rate and success at which we can discover, develop and commercialize our product candidates will be limited and the potential for successfully growing our business will be harmed.

In order to successfully implement our plans and strategies, we will need to grow the size of our organization, and we may experience difficulties in managing this growth.

As of September 30, 2023, we have 88 full-time employees, including 72 employees engaged in research and development. In order to successfully implement our development and commercialization plans and strategies, and as we transition into operating as a public company, we expect to need additional managerial, operational, sales, marketing, financial and other personnel. Future growth would impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining and motivating additional employees;
- managing our internal development efforts effectively, including the clinical, FDA and other comparable foreign regulatory agencies' or notified bodies' review process of our current product candidates and any other product candidate we develop, while complying with any contractual obligations to contractors and other third parties we may have; and
- improving our operational, financial and management controls, reporting systems and procedures.

Our future financial performance and our ability to successfully develop and, if approved, commercialize Revita and any other product candidate will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of its attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

We currently rely, and for the foreseeable future will continue to rely, in substantial part on certain independent organizations, advisors and consultants to provide certain services, including key aspects of clinical development and manufacturing. We cannot assure you that the services of independent organizations, advisors and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by third party service providers is compromised for any reason, our clinical studies may be extended, delayed or terminated, and we may not be able to obtain marketing approval of any current or future product candidates or otherwise advance our business. We cannot assure you that we will be able to manage our existing third party service providers or find other competent outside contractors and consultants on economically reasonable terms, or at all.

If we are not able to effectively expand our organization by hiring new employees and/or engaging additional third party service providers, we may not be able to successfully implement the tasks necessary to further develop and commercialize Revita and any other current or future product candidates and, accordingly, may not achieve our research, development and commercialization goals.

Risks Related to This Offering and Ownership of Our Common Stock

There has been no prior public market for our common stock. We do not know whether an active, liquid and orderly trading market will develop for our common stock or what the market price of our common stock will be and as a result it may be difficult for you to sell your shares of our common stock.

Prior to this offering, no public market for shares of our common stock existed and an active trading market for our common stock may never develop or be sustained following this offering. We determined the

initial public offering price for our common stock through negotiations with the underwriters, and the negotiated price may not be indicative of the market price of our common stock after this offering. The market value of our common stock may decrease from the initial public offering price. As a result of these and other factors, you may be unable to resell your shares of our common stock at or above the initial public offering price. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable. The lack of an active market may also reduce the fair market value of your shares. Furthermore, an inactive market may also impair our ability to raise capital by selling shares of our common stock and may impair our ability to enter into strategic collaborations or acquire companies, technologies or other assets by using our shares of common stock as consideration.

The price of our stock may be volatile, and you could lose all or part of your investment.

The trading price of our common stock following this offering is likely to be highly volatile and subject to wide fluctuations in response to various factors, some of which we cannot control. The stock market in general, and pharmaceutical and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. The trading prices for common stock of other pharmaceutical and biotechnology companies have also been highly volatile as a result of the COVID-19 pandemic.

Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, these factors include:

- the timing and results of preclinical and clinical studies of our product candidates or those of our competitors;
- the success of competitive products or announcements by potential competitors of their product development efforts;
- regulatory actions with respect to our product candidates or our competitors' products;
- actual or anticipated changes in our growth rate relative to our competitors;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- announcements by us or our competitors of significant acquisitions, strategic collaborations, joint ventures, collaborations or capital commitments;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- market conditions in the pharmaceutical and biotechnology sector;
- changes in the structure of healthcare payment systems;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;

- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or our other stockholders;
- expiration of market stand-off or lock-up agreements;
- the ongoing and future impact of the COVID-19 pandemic, or any future public health crises, including epidemics and pandemics, and actions taken to slow their spread; and
- general economic, industry and market conditions.

The realization of any of the above risks or any of a broad range of other risks, including those described in this "Risk Factors" section, could have a dramatic and adverse impact on the market price of our common stock.

Our management team has broad discretion to use the net proceeds from this offering and its investment of these proceeds may not yield a favorable return. They may invest the net proceeds from this offering in ways with which investors disagree.

We plan to use the net proceeds from this offering to complete the ongoing Revitalize-1 pivotal clinical study of Revita and fund the Remain-1 study; fund the continued preclinical development of our Rejuva gene therapy platform; and for working capital and other general corporate purposes, including medical education and other commercial readiness activities. See "Use of Proceeds." However, within the scope of our plan, and in light of the various risks to our business, including those discussed in this "Risk Factors" section and elsewhere in this prospectus, our management will have broad discretion over the use of net proceeds from this offering, and could spend the net proceeds in ways our stockholders may not agree with or that do not yield a favorable return, if at all. If we do not invest or apply the net proceeds from this offering in ways that improve our results of operations, we may fail to achieve expected financial results, which could cause our stock price to decline.

If securities or industry analysts do not publish research or reports, or if they publish adverse or misleading research or reports, regarding us, our business or our market, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us, our business or our market. We do not currently have and may never obtain research coverage by securities or industry analysts. If no or few securities or industry analysts commence coverage of us, the stock price would be negatively impacted. In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us issue adverse or misleading research or reports regarding us, our business model, our intellectual property, our stock performance or our market, or if our results of operations fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Prior to this offering, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates beneficially owned approximately 68% of our voting stock and, upon the closing of this offering, that same group will beneficially own approximately % of our outstanding voting stock. Therefore, even after this offering these stockholders will be able to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents or

approval of any merger, sale of assets or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders. The interests of this group of stockholders may not always coincide with your interests or the interests of other stockholders and they may act in a manner that advances their best interests and not necessarily those of other stockholders, including seeking a premium value for their common stock, and might affect the prevailing market price for our common stock.

If you purchase shares of our common stock in our initial public offering, you will experience substantial and immediate dilution.

The initial public offering price of our common stock is substantially higher than the net tangible book value (deficit) per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our pro forma as adjusted net tangible book value per share after this offering. Based on the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, you will experience immediate dilution of $ per share, representing the difference between our pro forma as adjusted net tangible book value per share after this offering and the assumed initial public offering price. This dilution is due in large part to the fact that our earlier investors paid substantially less than the initial public offering price when they purchased their shares of our capital stock. In addition, as of September 30, 2023, we had outstanding stock options to purchase an aggregate of 19,781,902 shares of common stock at a weighted-average price of $2.30 per share. To that extent, you will experience additional dilution when those holding stock options exercise their right to purchase common stock under our equity incentive plans or when we otherwise issue additional shares of common stock. See "Dilution."

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

Our common stock price could decline as a result of sales of a large number of shares of common stock after this offering or the perception that these sales could occur. These sales, or the possibility that these sales may occur, might also make it more difficult for us to sell equity securities in the future at a time and price that we deem appropriate.

Upon the completion of this offering, shares of common stock will be outstanding (shares if the underwriters exercise their option to purchase additional shares from us in full), based on the number of shares outstanding as of September 30, 2023.

All shares of common stock expected to be sold in this offering will be freely tradable without restriction or further registration under the Securities Act of 1933, as amended, or the Securities Act, unless held by our "affiliates" as defined in Rule 144 under the Securities Act. The resale of the remaining shares, or approximately % of our outstanding shares of common stock following this offering, is currently prohibited or otherwise restricted as a result of securities law provisions, market standoff agreements entered into by certain of our stockholders with us or lock-up agreements entered into by our stockholders with the underwriters in connection with this offering. However, subject to applicable securities law restrictions, these shares will be able to be sold in the public market beginning 181 days after the date of this prospectus. Shares issued upon the exercise of stock options, RSUs and warrants outstanding under our equity incentive plans or pursuant to future awards granted under those plans will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules, market stand-off agreements and/or lock-up agreements, as well as Rules 144 and 701 under the Securities Act. For more information, see "Shares Eligible for Future Sale."

Upon the completion of this offering, the holders of approximately shares, or approximately % of our outstanding shares following this offering, of our common stock will have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to

include their shares in registration statements that we may file for ourselves or our other stockholders. We also intend to register the offer and sale of all shares of common stock that we may issue under our equity compensation plans. Once we register the offer and sale of shares for the holders of registration rights and shares that may be issued under our equity incentive plans, these shares will be able to be sold in the public market upon issuance, subject to the lock-up agreements described under "Underwriting."

In addition, in the future, we may issue additional shares of common stock, or other equity or debt securities convertible into common stock, in connection with a financing, acquisition, employee arrangement or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and could cause the price of our common stock to decline.

We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation of the value of our common stock.

We have never declared or paid any cash dividends on our equity securities. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to any appreciation in the value of our common stock, which is not certain. Furthermore, we are a party to a credit agreement that contains negative covenants that limit our ability to pay dividends. For more information, see the section of this prospectus captioned "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources."

Provisions in our certificate of incorporation and bylaws and Delaware law might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the market price of our common stock.

Our certificate of incorporation and bylaws, as we expect they will be in effect upon closing of the offering, will contain provisions that could depress the market price of our common stock by acting to discourage, delay or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions, among other things:

- establish a classified board of directors so that not all members of our board are elected at one time;
- permit only the board of directors to establish the number of directors and fill vacancies on the board;
- provide that directors may only be removed "for cause" and only with the approval of two-thirds of our stockholders;
- authorize the issuance of "blank check" preferred stock that our board could use to implement a stockholder rights plan (also known as a "poison pill");
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- prohibit cumulative voting;
- authorize our board of directors to amend the bylaws;

- establish advance notice requirements for nominations for election to our board or for proposing matters that can be acted upon by stockholders at annual stockholder meetings; and

- require a super-majority vote of stockholders to amend some provisions described above.

In addition, Section 203 of the General Corporation Law of the State of Delaware, or the DGCL, prohibits a publicly-held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person which together with its affiliates owns, or within the last three years has owned, 15% of our voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner.

Any provision of our certificate of incorporation, bylaws or Delaware law that has the effect of delaying or preventing a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our capital stock and could also affect the price that some investors are willing to pay for our common stock.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide for an exclusive forum in the Court of Chancery of the State of Delaware for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that the Court of Chancery of the State of Delaware (or, in the event that the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware or other state courts of the State of Delaware) is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of fiduciary duty, any action asserting a claim against us arising pursuant to the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause or causes of action against any defendant arising under the Securities Act. Such provision is intended to benefit and may be enforced by us, our officers and directors, employees and agents, including the underwriters and any other professional or entity who has prepared or certified any part of this prospectus. Nothing in our amended and restated certificate of incorporation or amended and restated bylaws preclude stockholders that assert claims under the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

We believe these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims or make such lawsuits more costly for stockholders, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder. Furthermore, the enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in

the exclusive-forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the choice of forum provision that will be contained in our amended and restated certificate of incorporation and amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition.

General Risks

Our information technology systems, or those of any of our CROs, manufacturers, other contractors, consultants, collaborators or potential future collaborators, may fail or suffer security or data privacy breaches or other unauthorized or improper access to, use of, or destruction of our proprietary or confidential data, employee data, or personal data, which could result in additional costs, loss of revenue, significant liabilities, harm to our brand and material disruption of our operations.

Despite the implementation of security measures, our information technology systems and those of our current and any future CROs and other contractors, consultants, collaborators and third-party service providers, are vulnerable to damage from computer viruses, cybersecurity threats, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failure. The size and complexity of our information technology systems make such systems potentially vulnerable to service interruptions or to security breaches from inadvertent or intentional actions by our employees or vendors, or from attacks by malicious third parties. Such attacks are increasing in their frequency, levels of persistence, levels of sophistication and intensity, and are being conducted by sophisticated and organized groups and individuals with a wide range of motives and expertise, especially given increased vulnerability of corporate information technology systems as distributed work environments have become prevalent. In addition to unauthorized access to or acquisition of personal data, confidential information, intellectual property or other sensitive information, such attacks could include the deployment of harmful malware and ransomware, and may use a variety of methods, including denial-of-service attacks, social engineering and other means, to attain such unauthorized access or acquisition or otherwise affect service reliability and threaten the confidentiality, integrity and availability of information. Like many other companies, we experience attempted cybersecurity actions on a frequent basis, and the frequency of such attempts could increase in the future. While we have invested in the protection of data and information technology, there can be no assurance that our efforts will prevent or quickly identify service interruptions or security breaches. The techniques used by cybercriminals change frequently, may not be recognized until launched and can originate from a wide variety of sources, including outside groups such as external service providers, organized crime affiliates, terrorist organizations or hostile foreign governments or agencies. We cannot assure that our data protection efforts and our investment in information technology will prevent significant breakdowns, data leakages or breaches in our systems or those of our third-party services providers or partners.

If such an event were to occur and cause interruptions in our operations or result in the unauthorized acquisition of or access to health-related or other personal information, it could result in a material disruption of our drug discovery and development programs and our business operations, whether due to a loss of our trade secrets or other similar disruptions. Some of the federal, state and foreign government requirements include obligations of companies to notify individuals of security breaches involving particular personally identifiable information, which could result from breaches experienced by us or by our vendors, contractors, or organizations with which we have formed strategic relationships. Notifications and follow-up actions related to a security breach could impact our reputation, cause us to incur significant costs, including legal expenses and remediation costs. For example, the loss of clinical study data from completed or future clinical studies could result in delays in our regulatory approval or certification efforts and significantly increase our costs to recover or reproduce the lost data. We also rely on third parties to manufacture our product candidates, and similar events relating to their computer systems could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data, or inappropriate disclosure of confidential or proprietary information, we could be exposed to litigation and governmental investigations, the further

development and commercialization of our product candidates could be delayed, and we could be subject to significant fines or penalties for any noncompliance with certain state, federal and/or international privacy and security laws.

Our insurance policies may not be adequate to compensate us for the potential losses arising from any such disruption, failure or security breach. In addition, such insurance may not be available to us in the future on economically reasonable terms, or at all. Further, our insurance may not cover all claims made against us and could have high deductibles in any event, and defending a suit, regardless of its merit, could be costly and divert management attention.

Our operations are vulnerable to interruption by fire, severe weather conditions, power loss, telecommunications failure, terrorist activity, future pandemics and other events beyond our control, which could harm our business.

Our facilities are located in regions which experience severe weather from time to time. We have not undertaken a systematic analysis of the potential consequences to our business and financial results from a major tornado, flood, fire, earthquake, power loss, terrorist activity, future pandemics or other disasters and do not have a recovery plan for such disasters. In addition, we do not carry sufficient insurance to compensate us for actual losses from interruption of our business that may occur, and any losses or damages incurred by us could harm our business. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses.

We are an "emerging growth company," and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we intend to take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure in this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor's report on financial statements;
- reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements; and
- exemptions from the requirements of holding nonbinding advisory stockholder votes on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

We will remain an emerging growth company until the earliest to occur of: (1) the last day of the fiscal year in which we have more than $1.235 billion in annual revenue; (2) the date we qualify as a "large accelerated

filer," with at least $700 million of equity securities held by non-affiliates; (3) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period; and (4) the last day of the fiscal year ending after the fifth anniversary of our initial public offering.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We intend to take advantage of the extended transition period for adopting new or revised accounting standards under the JOBS Act as an emerging growth company. As a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

We are a "smaller reporting company" and the reduced disclosure requirements applicable to smaller reporting companies may make our common stock less attractive to investors.

We are considered a "smaller reporting company." We are therefore entitled to rely on certain reduced disclosure requirements for as long as we remain a smaller reporting company, such as an exemption from providing selected financial data and executive compensation information. If we qualify as a smaller reporting company because we meet the revenue limits under the definition of a smaller reporting company, we will be a "low-revenue smaller reporting company." Low-revenue smaller reporting companies are not required to obtain an external audit on the effectiveness of their internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404. These exemptions and reduced disclosures may make it harder for investors to analyze our results of operations and financial prospects. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock prices may be more volatile.

The requirements of being a public company may strain our resources, result in more litigation and divert management's attention.

As a public company, we will be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, the listing requirements of Nasdaq and other applicable securities rules and regulations. Complying with these rules and regulations has increased and will increase our legal and financial compliance costs, make some activities more difficult, time consuming or costly and increase demand on our systems and resources. The Exchange Act requires, among other things, that we file annual, quarterly and current reports with respect to our business and results of operations. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are required to disclose changes made in our internal control and procedures on a quarterly basis. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management's attention may be diverted from other business concerns, which could adversely affect our business and results of operations. We may also need to hire additional employees or engage outside consultants to comply with these requirements, which will increase our costs and expenses.

In addition, changing laws, regulations and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs and making some activities more time consuming. These laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest resources to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to

comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us and our business may be adversely affected.

These new rules and regulations may make it more expensive for us to obtain director and officer liability insurance and, in the future, we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

By disclosing information in this prospectus and in future filings required of a public company, our business and financial condition will become more visible, which we believe may result in threatened or actual litigation, including by competitors and other third parties. If those claims are successful, our business could be seriously harmed. Even if the claims do not result in litigation or are resolved in our favor, the time and resources needed to resolve them could divert our management's resources and seriously harm our business.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock.

We will be required to disclose changes made in our internal controls and procedures on a quarterly basis and our management will be required to assess the effectiveness of these controls annually. However, for as long as we are a smaller reporting company, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. An independent assessment of the effectiveness of our internal controls over financial reporting could detect problems that our management's assessment might not. Undetected material weaknesses in our internal controls over financial reporting could lead to restatements of our financial statements and require us to incur the expense of remediation.

Changes in our effective tax rate or tax liability may have an adverse effect on our results of operations.

We are subject to income taxes in the United States. Our effective tax rate could be adversely affected due to several factors, including:

- changes in the relative amounts of income before taxes in the various jurisdictions in which we operate that have differing statutory tax rates;
- changes in the United States tax laws and regulations or the interpretation of them, including the Tax Act, as modified by the CARES Act;
- changes to our assessment about our ability to realize our deferred tax assets that are based on estimates of our future results, the prudence and feasibility of possible tax planning strategies, and the economic and political environments in which we do business;

- the outcome of current and future tax audits, examinations, or administrative appeals; and
- limitations or adverse findings regarding our ability to do business in some jurisdictions.

New income or other tax laws or regulations could be enacted at any time, which could adversely affect our business operations and financial performance. Further, existing tax laws and regulations could be interpreted, modified, or applied adversely to us. For example, the Tax Act enacted many significant changes to the U.S. tax Laws. Future guidance from the IRS and other tax authorities with respect to the Tax Act may affect us, and certain aspects of the Tax Act could be repealed or modified in future legislation. For example, the CARES Act and the Inflation Reduction Act modified and introduced certain provisions to the Tax Act. Changes in corporate tax rates, the realization of net operating losses, and other deferred tax assets relating to our operations, the taxation of foreign earnings, the deductibility of expenses under the Tax Act, the corporate minimum tax and excise tax under the Inflation Reduction Act or future reform legislation could have a material impact on the value of our deferred tax assets and could increase our future U.S. tax expense.

If our product candidates are approved, we expect to generate a portion of our future revenue internationally and are subject to various risks relating to international operations, which could adversely affect our operating results.

We believe that a portion of our future revenue will come from international sources as we plan to seek regulatory approvals of our product candidates in international markets and, if approved, to establish overseas operations. Engaging in international business involves a number of difficulties and risks, including:

- required compliance with existing and changing foreign healthcare and other regulatory requirements and laws, such as those relating to patient privacy or handling of bio-hazardous waste;
- required compliance with anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act and U.K. Bribery Act, data privacy requirements, labor laws and anti-competition regulations;
- export or import restrictions;
- various reimbursement and insurance regimes;
- laws and business practices favoring local companies;
- longer payment cycles and difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;
- political and economic instability;
- potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements and other trade barriers;
- foreign exchange controls;
- difficulties and costs of staffing and managing foreign operations;
- difficulties protecting or procuring intellectual property rights; and
- existence of additional third-party intellectual property rights of potential relevance.

If the value of the U.S. dollar increases relative to foreign currencies in the future, in the absence of a corresponding change in local currency prices, our future revenue could be adversely affected as we convert future revenue from local currencies to U.S. dollars.

If we dedicate resources to our international operations and are unable to manage these risks effectively, our business, operating results and prospects will suffer.

New tax legislation may impact our results of operations and financial condition.

The U.S. government may enact significant changes to the taxation of business entities including, among others, an increase in the corporate income tax rate and the imposition of minimum taxes or surtaxes on certain types of income. For example, the recently enacted Inflation Reduction Act, among other changes, introduced a 15% corporate minimum tax on certain U.S. corporations and a 1% excise tax on certain stock redemptions by U.S. corporations. If such changes are enacted or implemented, we are currently unable to predict the ultimate impact on our business.

Taxing authorities may successfully assert that we should have collected or in the future should collect sales and use, value added or similar taxes, and any such assessments could adversely affect our business, financial condition, and results of operations.

Sales and use, value added and similar tax laws and rates vary greatly by jurisdiction. Certain jurisdictions in which we do not collect such taxes may assert that such taxes are applicable or that our presence in such jurisdictions is sufficient to require us to collect taxes, which could result in tax assessments, penalties and interest, and we may be required to collect such taxes in the future. Such tax assessments, penalties and interest or future requirements may adversely affect our financial condition and results of operations. Further, in June 2018, the Supreme Court held in South Dakota v. Wayfair, Inc. that states could impose sales tax collection obligations on out-of-state sellers even if those sellers lack any physical presence within the states imposing the sales taxes. Under the Wayfair decision, a person requires only a “substantial nexus” with the taxing state before the state may subject the person to sales tax collection obligations therein. An increasing number of states (both before and after the publication of the Wayfair decision) have considered or adopted laws that attempt to impose sales tax collection obligations on out-of-state sellers. The Supreme Court’s Wayfair decision has removed a significant impediment to the enactment and enforcement of these laws, and it is possible that states may seek to tax out-of-state sellers on sales that occurred in prior tax years, which could create additional administrative burdens for us, put us at a competitive disadvantage if such states do not impose similar obligations on our competitors, and decrease our future sales, which could adversely affect our business, financial condition, and results of operations.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that can involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, future revenue, timing and likelihood of success, plans and objectives of management for future operations, future results of anticipated products and prospects, plans and objectives of management are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” ,” “potential,” “predict,” “project,” “should,” “target,” “will,” or “would” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- the timing, progress and results of preclinical and clinical studies for our current and future product candidates, including statements regarding the timing of initiation and completion of studies and related preparatory work, the period during which the results of the studies will become available and our research and development programs;
- the timing, scope or likelihood of regulatory submissions, filings, clearances and approvals, including final regulatory approval or clearance of our product candidates;
- our ability to develop and advance product candidates into, and successfully complete, clinical studies;
- our expectations regarding the size of the patient populations for our product candidates, if approved or cleared for commercial use;
- the implementation of our business model and our strategic plans for our business, product candidates and technology;
- our commercialization, marketing and manufacturing capabilities and strategy, as well as our product development strategy;
- the pricing and reimbursement of our product candidates, if approved or cleared;
- the scalability and commercial viability of our manufacturing methods and processes, including our plans to maintain our in-house manufacturing facility, even after commercialization of any of our product candidates;
- the rate and degree of market acceptance and clinical utility of our product candidates;
- our ability to establish or maintain collaborations or strategic relationships or obtain additional funding;
- our competitive position;
- the scope of protection we and/or any future licensors are able to establish and maintain for intellectual property rights covering our product candidates;

- developments and projections relating to our competitors and our industry;
- our expectations related to the use of proceeds from this offering;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- the period over which we estimate our existing cash and cash equivalents will be sufficient to fund our future operating expenses and capital expenditure requirements;
- the impact of laws and regulations;
- our expectations regarding the time during which we will be an emerging growth company and smaller reporting company under the JOBS Act; and
- the impact of adverse macroeconomic conditions, geopolitical events, the recent COVID-19 pandemic and potential future public health crises, including epidemics and pandemics.

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described in the section titled "Risk Factors" and elsewhere in this prospectus. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein until after we distribute this prospectus, whether as a result of any new information, future events or otherwise.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements.

USE OF PROCEEDS

We estimate that the net proceeds to us from in this offering will be approximately $ million, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters' option to purchase additional shares from us is exercised in full, we estimate that our net proceeds will be approximately $ million.

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the net proceeds to us from this offering by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Each increase (decrease) of 1.0 million in the number of shares we are offering would increase (decrease) the net proceeds to us from this offering, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, by $ million, assuming the assumed initial public offering price stays the same.

We intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, as follows:

- approximately $ million to complete the ongoing Revitalize-1 pivotal clinical study;
- approximately $ million to fund the planned Remain-1 study;
- approximately $ million to fund the continued preclinical development of our Rejuva gene therapy candidates; and
- the remainder for working capital and other general corporate purposes, including medical education and other commercial readiness activities.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. We may also use a portion of the net proceeds to in-license, acquire or invest in additional businesses, technologies, products or assets, although currently we have no specific agreements, commitments or understandings in this regard. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering or the amounts that we will actually spend on the uses set forth above. Predicting the cost necessary to develop product candidates can be difficult and we anticipate that we will need additional funds to complete the development of any product candidates we identify. The amounts and timing of our actual expenditures and the extent of clinical development may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from preclinical studies and any ongoing clinical studies or studies we may commence in the future, as well as any collaborations that we may enter into with third parties for our product candidates and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds.

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements through . We have based this estimate on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently expect. We may satisfy our future cash needs through the sale of equity securities, debt financings, working capital lines of credit, corporate collaborations or license agreements, grant funding, interest income earned on invested cash balances or a combination of one or more of these sources.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities. We cannot predict whether the proceeds invested will yield a favorable return.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to fund the development, commercialization and growth of our business, and therefore we do not anticipate declaring or paying any cash dividends on any class of our common stock in the foreseeable future. Any future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors, subject to compliance with contractual restrictions and covenants in the agreements governing our current and future indebtedness. Any such determination will also depend upon our business prospects, results of operations, financial condition, cash requirements and availability and other factors that our board of directors may deem relevant. Investors should not purchase our common stock with the expectation of receiving cash dividends.

Accordingly, you may need to sell your shares of our common stock to realize a return on your investment, and you may not be able to sell your shares at or above the price you paid for them. See "Risk Factors—Risks Related to This Offering and Ownership of Our Common Stock—We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation of the value of our common stock."

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of September 30, 2023, as follows:

- on an actual basis;
- on a pro forma basis to give effect to (i) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 77,994,156 shares of our common stock, as if such conversion had occurred on September 30, 2023, (ii) the automatic settlement of the 2022 Convertible Notes, including accrued interest, into shares of our common stock in connection with the closing of this offering, assuming an initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, (iii) an aggregate charge to accumulated deficit of $ relating to the loss resulting from the settlement of the 2022 Convertible Notes, assuming an initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, and (iv) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the closing of this offering; and
- on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma as adjusted information below is illustrative only, and our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this information in conjunction with our consolidated financial statements and the related notes included elsewhere in this prospectus and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections and other financial information contained in this prospectus.

	As of September 30, 2023		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(unaudited, in thousands, except share and per share amounts)		
Cash and cash equivalents	$ 44,500	$	$
Convertible notes payable, long-term	$ 27,225	$	$
Non-convertible notes payable, long-term	27,518		
Convertible preferred stock warrant liability, current	14,036		
Convertible preferred stock, par value $0.00001 per share: 78,112,639 shares authorized, 77,994,156 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	287,330		
Stockholders' equity (deficit):			
Preferred stock, $0.00001 par value per share: no shares authorized, issued and outstanding, actual; shares authorized, pro forma and pro forma as adjusted; no shares issued and outstanding, pro forma and pro forma as adjusted	—		
Common stock, $0.00001 par value per share: 107,000,000 shares authorized, 4,496,210 shares issued and outstanding, actual; shares authorized, pro forma and pro forma as adjusted; shares issued and outstanding, pro forma; shares issued and outstanding, pro forma as adjusted	—		

	As of September 30, 2023		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(unaudited, in thousands, except share and per share amounts)		
Additional paid-in capital	20,261		
Accumulated deficit	(327,436)		
Total stockholders' equity (deficit)	(307,175)		
Total capitalization	$ 48,934	$	$

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, total stockholders' equity (deficit) and total capitalization by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase (decrease) of 1.0 million shares in the number of shares offered by us at the assumed initial public offering price per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash and cash equivalents, total stockholders' equity (deficit) and total capitalization by approximately $ million.

The information in the table above excludes:

- 19,781,902 shares of common stock issuable upon exercise of outstanding stock options granted under the 2011 Plan as of September 30, 2023, at a weighted average exercise price of $2.30 per share;
- 87,621 shares of common stock issuable upon the vesting and settlement of outstanding RSUs granted under the 2011 Plan, as of September 30, 2023, at a weighted average grant date fair value of $5.22 per share;
- 1,554,267 shares of common stock available for future issuance under the 2011 Plan as of September 30, 2023, which such shares will cease to be available for issuance at the time our 2024 Plan becomes effective;
- shares of common stock that will become available for future issuance under the 2024 Plan, which will become effective in connection with the completion of this offering, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan;
- shares of common stock that will become available for future issuance under the ESPP, which will become effective in connection with the completion of this offering, and shares of our common stock that become available pursuant to provisions in the ESPP that automatically increase the share reserve under the ESPP;
- 465,315 shares of common stock issuable upon the exercise of outstanding warrants as of September 30, 2023, at a weighted average exercise price of $1.53 per share; and
- 2,993,592 shares of common stock issuable upon the exercise of outstanding warrants issued in July and September 2023, as of September 30, 2023, at an assumed exercise price of $8.3843.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be immediately diluted to the extent of the difference between the initial public offering price per share and the pro forma as adjusted net tangible book value per share of our common stock after this offering.

Our historical net tangible book value (deficit) as of September 30, 2023 was $(308.5) million, or $(68.62) per share of our common stock. Our historical net tangible book value (deficit) is the amount of our total tangible assets less our total liabilities and preferred stock, which is not included within stockholders' equity (deficit). Historical net tangible book value (deficit) per share represents historical net tangible book value (deficit) divided by the 4,496,210 shares of our common stock outstanding as of September 30, 2023.

Our pro forma net tangible book value (deficit) as of September 30, 2023 was $ million, or $ per share of our common stock. Pro forma net tangible book value per share is determined by subtracting our total liabilities from the total book value of our tangible assets and dividing the difference by the number of shares of common stock deemed to be outstanding, after giving effect to (i) the automatic settlement of the 2022 Convertible Notes, including accrued interest, into shares of our common stock in connection with the closing of this offering, assuming an initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, (ii) an aggregate charge to accumulated deficit of $ to the loss resulting from the settlement of the 2022 Convertible Notes, assuming an initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, and (iii) the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 77,994,156 shares of common stock as if such conversion had occurred on September 30, 2023.

After giving further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share (which is the midpoint of the price range set forth on the cover page of this prospectus) and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30, 2023, would have been $ million, or $ per share of common stock. This amount represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing stockholders and an immediate dilution in pro forma as adjusted net tangible book value of $ per share to new investors purchasing shares of common stock in this offering. We determine dilution by subtracting the pro forma as adjusted net tangible book value per share after this offering from the amount of cash that a new investor paid for a share of common stock.

The following table illustrates this dilution:

Assumed initial public offering price per share of common stock		$
Historical net tangible book value (deficit) per share as of September 30, 2023	$(68.62)	
Increase per share attributable to the issuance of the 2022 Convertible Notes, the conversion of outstanding convertible preferred stock and settlement of the 2022 Convertible Notes		
Pro forma net tangible book value per share as of September 30, 2023 before this offering		
Increase in pro forma as adjusted net tangible book value per share attributable to investors in this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new common stock investors in this offering		$

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted net tangible book value per share after this offering by approximately $, and dilution in pro forma as adjusted net tangible book value per share to new investors by approximately $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase an additional shares of our common stock in this offering in full, the pro forma as adjusted net tangible book value of our common stock would increase to $ per share, representing an immediate increase to existing stockholders of $ per share and an immediate dilution of $ per share to new investors participating in this offering.

The following table summarizes, as of September 30, 2023, after giving effect to this offering, the number of shares of our common stock purchased from us, the total consideration paid, or to be paid, to us and the average price per share paid, or to be paid, by existing stockholders and by the new investors. The calculation below is based on an assumed initial public offering price of $ per share, which is the midpoint of the price range listed on the cover page of this prospectus, before deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	Shares Purchased		Total Consideration		
	Number	Percent	Amount	Percent	Average Price Per Share
Existing stockholders (1)					
New investors					
Total		**100%**		**100%**	

(1) The presentation in this table regarding ownership by existing stockholders does not give effect to any purchases that existing stockholders may make in this offering.

Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share would increase (decrease) the total consideration paid by new investors and the total consideration paid by all stockholders by $ million, assuming the number of shares offered by us remains the same and after deducting estimated underwriting discounts and commissions but before estimated offering expenses.

If the underwriters exercise their option to purchase additional shares of our common stock in full, the total consideration paid by new investors and the average price per share paid by new investors would be approximately $ million and $ per share, respectively, in each case assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus.

Except as otherwise indicated, the discussion and the tables above assume no exercise of the underwriters' option to purchase additional shares of our common stock and excludes:

- 19,781,902 shares of common stock issuable upon exercise of outstanding stock options granted under the 2011 Plan as of September 30, 2023, at a weighted average exercise price of $2.30 per share;
- 87,621 shares of common stock issuable upon the vesting and settlement of outstanding RSUs granted under the 2011 Plan, as of September 30, 2023, at a weighted average grant date fair value of $5.22 per share;
- 1,554,267 shares of common stock available for future issuance under the 2011 Plan as of September 30, 2023, which such shares will cease to be available for issuance at the time our 2024 Plan becomes effective;

- shares of common stock that will become available for future issuance under the 2024 Plan, which will become effective in connection with the completion of this offering, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan;

- shares of common stock that will become available for future issuance under the ESPP, which will become effective in connection with the completion of this offering, and shares of our common stock that become available pursuant to provisions in the ESPP that automatically increase the share reserve under the ESPP;

- 465,315 shares of common stock issuable upon the exercise of outstanding warrants as of September 30, 2023, at a weighted average exercise price of $1.53 per share; and

- 2,993,592 shares of common stock issuable upon the exercise of outstanding warrants issued in July and September 2023, as of September 30, 2023, at an assumed exercise price of $8.3843.

To the extent any of these outstanding options or warrants are exercised or any of these outstanding RSUs are vested and settled, there will be further dilution to new investors. To the extent all of such outstanding options and warrants had been exercised or all of such RSUs had been vested and settled as of September 30, 2023, the pro forma as adjusted net tangible book value per share after this offering would be $, and total dilution per share to new investors would be $.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the sections titled "Summary Consolidated Financial Data" and our consolidated financial statements and related notes and other information included elsewhere in this filing. In addition to historical data, this discussion contains forward-looking statements about our business, results of operations, cash flows, financial condition and prospects based on current expectations that involve risks, uncertainties and assumptions. Our actual results could differ materially from such forward-looking statements. Factors that could cause or contribute to those differences include, but are not limited to, those identified below and those discussed in the sections titled "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" included elsewhere in this filing. Additionally, our historical results are not necessarily indicative of the results that may be expected for any period in the future. We use words such as "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "predict," "project," "potential," "seek," "should," "will," "would," and similar expressions to identify forward-looking statements.

Business Overview

We are a metabolic therapeutics company focused on pioneering new approaches to the treatment of metabolic diseases, including type 2 diabetes and obesity. Despite advances in treatment over the last 50 years, type 2 diabetes, or T2D, and obesity continue to be a principal and rapidly growing driver of morbidity and mortality. According to the Centers for Disease Control and the International Diabetes Federation, approximately 100 million people in the United States have prediabetes and/or obesity, and an additional 25 million people have T2D on medical therapy. In 2022, there was $65 billion in annual pharmaceutical spending on drugs aimed at controlling glucose and body weight, all attributable to medicines requiring chronic administration, none of which modifies underlying disease progression. Highly potent drugs in the GLP-1RA class are now available to lower blood sugar, lower weight, and prevent cardiovascular mortality, but up to two-thirds of patients discontinue weekly GLP-1RA therapy within the first year, which typically leads to an immediate loss of metabolic benefit and weight rebound. We believe the unmet need has now shifted from temporary glucose lowering and weight loss strategies to approaches that can enable durable maintenance of metabolic health without daily or weekly pharmacotherapy Our goal is to develop durable disease-modifying therapies that are designed to provide long-term maintenance of metabolic health without requiring lifetime treatment by targeting the organ-level root causes of T2D and obesity. We believe there is significant clinical and economic opportunity for new approaches to achieve a major leap forward by enabling long-term control over T2D and obesity without the burden of chronic therapies.

Since our formation in 2010, we have devoted substantially all of our efforts and financial resources to organizing and staffing our company, business planning, raising capital, acquiring or discovering product candidates and securing related intellectual property rights and conducting discovery, research and development activities for our product candidates. The Revita DMR System, or Revita, is approved in Europe under a Conformitè Europëenne, or CE, Mark and has received reimbursement authorization in Germany. In the first half of 2023, we initiated a limited commercial pilot in a single center in Dusseldorf, Germany. We do not have any products approved for sale in the United States. To date, we have financed our operations primarily through sales of our convertible preferred stock and debt financing.

We have incurred significant operating losses since our inception. Our ability to generate product revenue sufficient to achieve profitability will depend heavily on the successful development and commercialization of one or more of our current or future product candidates in the United States. For the years ended December 31, 2022 and 2021 and the nine months ended September 30, 2023, we incurred net losses of $46.5 million, $38.7 million and $57.9 million, respectively. As of September 30, 2023, we had an accumulated deficit of $327.4 million. We expect to continue to incur significant losses for the foreseeable future and we expect these losses to increase substantially if and as we:

- advance the development of Revita and Rejuva through preclinical and clinical development, and, if approved by the FDA or other comparable foreign regulatory authorities, commercialization;

- incur manufacturing costs for our product candidates;
- increase our manufacturing capacity;
- seek regulatory approvals for any of our product candidates that successfully complete clinical studies;
- increase our research and development activities to identify and develop new product candidates;
- hire additional personnel;
- expand our operational, financial and management systems;
- invest in measures to protect and expand our intellectual property;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any product candidates for which we may obtain marketing approval and intend to commercialize;
- expand our manufacturing and develop our commercialization efforts; and
- operate as a public company.

We do not anticipate generating revenue from product sales in the United States unless and until we successfully complete clinical development and obtain marketing approvals for one or more of our product candidates, if ever. We are currently establishing our commercial infrastructure to support the anticipated marketing and distribution of our product candidates. Subject to receiving marketing approval, we may need to enter into arrangements with third parties for the sale, marketing and distribution of our product candidates. Accordingly, if we obtain marketing approval for any of our product candidates, we will incur significant additional commercialization expenses related to product manufacturing, marketing, sales and distribution.

As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations with other companies and strategic alliances. We may not be able to raise additional funds or enter into such other agreements or arrangements when needed on favorable terms, or at all. If we fail to raise capital or enter into such agreements as and when needed, we would have to significantly delay, reduce or eliminate the development and commercialization of one or more of our product candidates or delay our pursuit of potential in-licenses or acquisitions.

Components of our Consolidated Results of Operations

Revenue

We generate revenue from sales and leasing of Revita in Germany, which is approved in Europe under a CE Mark and has received reimbursement authorization in Germany. To date, we have generated insignificant revenue in Germany since the limited pilot commercial launch of Revita in the first quarter of 2023. In the United States, we have not generated any revenue, and do not expect to generate any revenue unless and until we successfully complete clinical development and obtain marketing approvals for one or more of our product candidates, if ever. If our development efforts for our product candidates are successful and result in regulatory approval or collaboration or license agreements with third parties, we may generate revenue in the future from product sales or payments from collaboration or license agreements that we may enter into with third parties, or any combination thereof. We cannot predict if, when or to what extent we will generate revenue from our product candidates. We may never succeed in obtaining regulatory approval for any of our product candidates in the United States.

Cost of Goods Sold

We manage the final assembly and testing of Revita in the manufacturing space at our headquarter in Lexington, Massachusetts. We contract third-party manufacturers to produce certain key parts of our single-use devices and consoles. Cost of goods sold primarily consist of material costs, direct labor and manufacturing overhead costs.

Operating Expenses

Research and Development Expenses

Research and development expenses primarily consist of personnel-related expenses, including salaries, bonuses, fringe benefits and other compensation-related costs, including stock-based compensation expense, for employees engaged in research and development functions. Research and development expenses also include costs of conducting our ongoing clinical studies, such as expenses associated with our clinical research organization, or CRO, who provides project management and other services related to our Revitalize-1 study, outside service fees paid to third party consultants and contractors related to our product candidate engineering, quality assurance and regulatory approval, contract manufacturing of our product candidate used in clinical studies as well as research expenses related to our Rejuva gene therapy platform.

We expense research and development costs as incurred. Non-refundable advance payments that we make for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses and other long-term assets, which are expensed as the related goods are delivered or the services are performed, or when it is no longer expected that the goods will be delivered or the services rendered.

A significant portion of our research and development costs have been, and will continue to be, external costs. We track these external costs, such as fees paid to our CRO, preclinical study vendors and other third parties in connection with our product engineering, sub-assembly component manufacturing and manufacturing process development, clinical studies, preclinical studies and other research activities on a program-by-program basis. We also use a portion of our personnel and infrastructure resources for our research and development efforts, which are shared across multiple programs under development, and as such, are not tracked on a program-by-program basis. The following table reflects our research and development expense, including direct program-specific expense summarized by program, indirect expenses, and personnel-related expenses recognized during each period presented:

	Nine Months Ended September 30,		Year Ended December 31,	
(in thousands)	**2023**	**2022**	**2022**	**2021**
Direct program-specific expenses:				
Revita	$ 9,130	$ 9,567	$ 12,527	$ 11,036
Rejuva	1,795	1,928	2,685	1,489
Total direct program-specific expenses	10,925	11,495	15,212	12,525
Indirect expenses	2,935	2,251	3,049	2,436
Personnel-related expenses (including stock-based compensation)	14,012	11,991	16,093	11,474
Total research and development expenses	$ 27,872	$ 25,737	$ 34,354	$ 26,435

We expect our research and development expenses will increase significantly in the future as we:

- hire and retain additional personnel, including research, clinical, development, manufacturing, quality control, quality assurance, regulatory and scientific personnel;

- continue to conduct our ongoing Revitalize-1 pivotal study, including additional clinical studies under our Revita clinical program;
- continue to advance the research and development of our discovery and preclinical programs, such as Rejuva;
- seek regulatory approval for any product candidates that successfully complete clinical studies; and
- develop, establish and validate our commercial-scale current good manufacturing practices and manufacturing process.

Selling, General and Administrative Expenses

Selling, general and administrative expenses primarily consist of personnel-related costs, including salaries, bonuses, fringe benefits and other compensation-related costs, including stock-based compensation expense, for our personnel and external contractors involved in our executive, finance, legal and other administrative functions as well as our commercial function, who is involved in market access related activities. Selling, general and administrative expenses also include costs incurred for outside services associated with such functions, including costs associated with obtaining and maintaining our patent portfolio and professional fees for accounting, auditing, tax, legal services and other consulting expenses.

We anticipate that our selling, general and administrative expenses will increase significantly in the future as we:

- hire and retain additional selling, general and administrative personnel to support the expected growth in our research and development activities and the preclinical and clinical development of our product candidates;
- continue to expand our commercial and administrative function to support the growth of our Revita commercialization in Germany as well as potential future launches in other geographic locations;
- incur additional commercialization expenses prior to any regulatory approval of our product candidates;
- pursue payor coverage and reimbursement for our current and future product candidates;
- maintain, expand and protect our intellectual property portfolio; and
- incur increased expenses associated with operating as a public company, including increased costs of accounting, audit, legal, regulatory and tax-related services, director and officer insurance premiums, and investor and public relations costs.

Other Income (Expenses), Net

Interest Income (Expense), Net

Interest expense primarily consists of cash and non-cash interest related to our Term Loans drawn down in 2019. See “Loan and Security Agreements” section below for more details about our debt agreements. Interest income is primarily generated from cash interest earned on our cash, cash equivalent and restricted cash balances.

Loss From Debt Extinguishment

Loss from extinguishment of debt represents loss from the early repayment of the Term Loans in January 2022.

Change in Fair Value of Notes Payable

In January 2022, we entered into a financing arrangement with certain lenders in which we issued convertible promissory notes, or the 2022 Convertible Notes. In July 2023, we repaid one of the promissory notes to one lender and issued amended and restated convertible promissory notes to the remaining lenders in replacement of, but not in payment of, the remainder of the 2022 Convertible Notes. In September 2023, we entered into a credit agreement with certain lenders that provides for term loans, or the 2023 Notes. See "Loan and Security Agreements" section below for more details about our debt financing agreements. We elected the fair value option to account for these notes payable, which are remeasured at the end of each reporting period with changes in fair value recognized as a component of other income (expense), net. We will continue to recognize changes in fair value of the notes payable until they are repaid in cash or converted into equity upon an equity financing event or a change of control event. In connection with this offering, the 2022 Convertible Notes will convert into common stock and we expect the liability will be reclassified to common stock and additional paid-in capital.

Change in Fair Value of Warrant Liabilities

In January 2014, we issued a fully vested warrant to purchase shares of our Series B convertible preferred stock in connection with a loan and security agreement entered into in January 2014. In July 2023, we issued fully vested warrants to purchase shares of our common stock in connection with the issuance of the amended and restated 2022 Convertible Notes. In September 2023, we issued fully vested warrants to purchase shares of our common stock or convertible preferred stock in connection with the 2023 Notes. These warrants were classified as liabilities on our consolidated balance sheet and were initially recorded at fair value on the grant date. They are subsequently remeasured to fair value at the end of each reporting period with changes in fair value recognized as a component of other income (expense), net. We will continue to recognize changes in fair value of the warrant liabilities until the warrants are exercised, expire or qualify for equity classification.

Critical Accounting Policies and Significant Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, as well as the reported expenses incurred during the reporting periods. Our estimates are based on our historical experience, known trends and events, and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities and recorded amounts of expenses that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2 to our consolidated financial statements appearing elsewhere in this prospectus, we believe the following accounting policies used in the preparation of our consolidated financial statements require the most significant judgments and estimates. Accordingly, these are the policies we believe are the most critical to aid in fully understanding and evaluating our audited consolidated financial condition and results of operations.

Stock-Based Compensation

We measure all stock options and other stock-based awards based on their fair value on the date of the grant. Those awards typically have a graded vesting schedule and compensation expense for awards with only service conditions are recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. Compensation costs recognized for performance-based awards reflect the number of awards that are expected to vest during the requisite service period and are adjusted to reflect those

awards that ultimately vest upon final determination of the performance conditions achieved. Historical performance patterns, to the extent that they are indicative to the performance conditions to be achieved, are used in developing estimates for the probability of attaining these performance conditions.

We use the Black-Scholes option pricing model, which incorporates assumptions and estimates, to measure the fair value of its option awards on the date of grant of each stock option award.

We determined the assumptions for the Black-Scholes option-pricing model as discussed below. Each of these inputs is subjective and generally requires significant judgment to determine. Forfeitures are accounted for as they occur.

- *Fair Value of Our Common Stock*. Prior to this offering, our stock was not publicly traded, and therefore we estimated the fair value of our common stock, as discussed in "Determination of the Fair Value of Common Stock" below.

- *Expected Term*. The expected term represents the period that the stock-based awards are expected to be outstanding. As we do not have sufficient historical exercise data to provide a reasonable basis upon which to estimate the expected term, the expected term of stock options granted has been determined using the simplified method, which is the average of the midpoints between the vesting date and the contractual term for all vesting tranches.

- *Risk-Free Interest Rate*. The risk-free interest rate is based on the rate of the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award.

- *Expected Volatility*. Because we do not have a trading history of our common stock, the expected volatility was derived from the average historical stock volatilities of several public companies within our industry that we consider to be comparable to our business over a period equivalent to the expected term of the stock-based awards.

- *Dividend Rate*. The expected dividend is zero as we have not paid and do not anticipate paying any dividends in the foreseeable future.

If any of the assumptions used in the Black-Scholes model change significantly, stock-based compensation for future awards may differ materially compared with the awards granted previously.

Determination of the Fair Value of Common Stock

As there has been no public market for our common stock to date, the estimated fair value of our common stock has been determined by our board of directors as of the date of each option grant, with input from management, considering independent third-party valuations of our common stock as well as our board of directors' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent third-party valuation through the date of the grant. These independent third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation. We estimated the value of our equity using market approaches. In conducting the valuations, our board of directors, with input from management, considered various objective and subjective factors to determine the fair value of our common stock as of each grant date, including:

- the prices at which we sold convertible preferred stock and the superior rights and preferences of the convertible preferred stock relative to our common stock at the time of each grant;

- the progress of our research and development programs, including the status of preclinical studies and current status of our ongoing clinical studies;

- our stage of development and commercialization and our business strategy;

- external market conditions affecting the therapeutics and medical device industry, and trends within the therapeutics and medical device industry;
- our financial position, including cash on hand, and our historical and forecasted performance and operating results;
- the lack of an active public market for our common stock and our preferred stock;
- the likelihood of achieving a liquidity event, such as an initial public offering, or IPO, or a sale of our company in light of prevailing market conditions; and
- the analysis of IPOs and the market performance of similar companies in the therapeutics and medical device industry.

The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management judgment.

When estimating the value of our equity, we applied a hybrid approach by performing a scenario-based analysis, in which we estimated the probability-weighted value across multiple scenarios. In one scenario, the equity value was determined by back-solving overall equity value to the price paid by recent financing transactions. The fair value of our equity was then allocated to various securities within our capital structure by applying an option pricing method. The option pricing method estimates the fair value of each class of security based on the potential to profit from the upside of the business, while taking into account the unique characteristics of each class of security. Under this method, the common stock has value only if the funds available for distribution to stockholders exceeded the value of the convertible preferred stock liquidation preferences at the time of the liquidity event, such as a strategic sale or a merger. We also considered an IPO scenario in which the shares of the convertible preferred stock are assumed to convert to common stock at the time of the IPO. The future value of the common stock is discounted back to the valuation date at an appropriate risk-adjusted discount rate to arrive at an indication of value for the common stock. A discount for lack of marketability of the common stock is then applied to arrive at an indication of value for the common stock.

We performed common stock valuations at various dates, which resulted in fair value of our common stock of $5.52, $5.32, $4.00, $3.81 and $5.22 per share as of the end of December 2021, March 2022, June 2022, December 2022, and June 2023, respectively. These common stock valuations were based on a probability weighted equity value considering both the estimated value at a potential future private liquidity event and the estimated value at a potential IPO. The principal factor contributing to the decrease in the valuation of our common stock from December 2021 to December 2022 was the adverse external market conditions which resulted in declining estimated equity value, reduced probability-weighting of the IPO scenario, increase in the estimated time to an IPO event and the corresponding increase in discount for lack of marketability. The increase in the valuation of our common stock from December 2022 to June 2023 was primarily contributable to the improved external market conditions during this period that led to our progress towards an IPO event, which resulted in an increase in the probability-weighting of the IPO scenario and a decrease in the estimated time to an IPO event along with the corresponding decrease in the discount for lack of marketability.

There are significant judgments and estimates inherent in the valuations. These judgments and estimates include assumptions regarding our future operating performance, the stage of development of our product candidates, the timing and probability of a potential IPO or other liquidity event and the determination of the appropriate valuation methodology at each valuation date. The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our equity-based compensation expense could be materially different.

Once a public trading market for our common stock has been established in connection with the consummation of this offering, it will no longer be necessary for our board of directors to estimate the fair value of our common stock in connection with our accounting for equity-based awards, as the fair value of our common stock will be determined based on the trading price of our common stock on the Nasdaq Global Market.

The following table summarizes by grant date and type of award, the number of equity-based awards granted between January 1, 2022 and the date of this prospectus, the per share exercise price, the fair value of common stock on each grant date and the per share estimated fair value of the awards:

Grant Date	Type of Award	Number of Shares Subject to Awards Granted	Per Share Exercise Price	Fair Value of Common Stock on Grant Date	Per Share Estimated Fair Value of Awards on Grant Date
March 8, 2022	Stock option	1,032,000	$ 5.52	$ 5.52	$ 2.98
September 7, 2022	Stock option	2,451,035	$ 4.00	$ 4.00	$ 2.59
November 2, 2022	Stock option	521,897	$ 4.00	$ 4.00	$ 2.33
December 7, 2022	Stock option	302,000	$ 4.00	$ 4.00	$ 2.29
March 16, 2023	Stock option	2,051,422	$ 3.81	$ 3.81	$ 2.20
June 7, 2023	Stock option	370,000	$ 3.81	$ 3.81	$ 2.24
August 21, 2023	Stock option	80,879	$ 5.22	$ 5.22	$ 3.10
August 21, 2023	Restricted stock units	87,621	—	$ 5.22	$ 5.22
September 13, 2023	Stock option	1,107,721	$ 5.22	$ 5.22	$ 3.11
November 10, 2023	Stock option	324,973	$ 5.22	$ 5.22	$ 3.15
November 10, 2023	Restricted stock units	1,209,659	—	$ 5.22	$ 5.22

Determination of the Fair Value of Notes Payable

We elected the fair value option to account for our 2022 Convertible Notes and 2023 Notes, and remeasure the fair value at each reporting date.

The fair value of the 2022 Convertible Notes was estimated using a Monte Carlo simulation model, which incorporates significant assumptions and estimates. These assumptions and estimates include, but are not limited to, the timing and probability of the conversion events, expected volatility of the price of the underlying equity, risk-free interest rate, scenario weightings, and estimated equity values, which are impacted by external market conditions. The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our fair value of the notes payable could be materially different.

The fair value of the 2023 Notes at the inception date of September 7, 2023 was estimated at the difference between the total proceeds from the 2023 Notes and the estimated fair value of the associated warrants issued. This assumption was based on the rationale that the fair value of the notes and warrants at issuance equated to the total proceeds of the 2023 Notes as the credit agreement of the 2023 Notes were entered into with the lenders in an arm's-length transaction. The fair value of the 2023 Notes at September 30, 2023 was considered to approximate the fair value at the inception date with an increase equal to the accrued payment-in-kind interest during September 2023. The fair value of the 2023 Notes at subsequent reporting periods is expected to be determined using a Monte Carlo simulation model.

Determination of the Fair Value of Warrant Liabilities

We remeasure the fair value of our warrant liabilities at the end of each reporting period. The fair value was estimated using either a Black-Scholes option-pricing model or a Monte Carlo simulation model, depending on the nature of the warrants. The valuation model used incorporates significant assumptions and estimates, which include, but are not limited to, the fair value per share of the underlying shares, the remaining contractual term of the warrants, risk-free interest rate and expected volatility of the price of the underlying shares.

Accrued Research and Development Expenses

As part of the process of preparing our consolidated financial statements, we are required to estimate our accrued research and development expenses. This process involves reviewing open contracts and purchase

orders, communicating with our personnel to identify services that have been performed on our behalf and estimating the level of service performed and the associated cost incurred for the service when we have not yet been invoiced or otherwise notified of actual costs. The majority of our service providers invoice us in arrears for services performed, on a pre-determined schedule or when contractual milestones are met; however, some require advanced payments. We make estimates of our accrued expenses as of each balance sheet date in the consolidated financial statements based on facts and circumstances known to us at that time. We periodically confirm the accuracy of these estimates with the service providers and make adjustments if necessary. Examples of estimated accrued research and development expenses include fees paid to:

- vendors, including central laboratories and research organizations, in connection with preclinical development activities and our research programs;
- CRO and investigative sites in connection with preclinical and clinical studies; and
- Clinical Manufacturing Organizations, or CMOs, in connection with devices and consumables used in the clinical studies.

We base our expenses related to preclinical and clinical studies on our estimates of the services received and efforts expended pursuant to quotes and contracts with multiple research institutions and our CRO that conduct and manage preclinical and clinical studies on our behalf. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows. There may be instances in which payments made to our vendors will exceed the level of services provided and result in a prepayment of the expense. Payments under some of these contracts depend on factors such as the successful enrollment of patients and the completion of clinical study milestones. In accruing service fees, we estimate the time period over which services will be performed and the level of effort to be expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, we adjust the accrual or the amount of prepaid expenses accordingly. Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low in any particular period. To date, there have not been any material adjustments to our prior estimates of accrued research and development expenses.

Results of Operations

Nine Months Ended September 30, 2023 and 2022

The following table summarizes our consolidated results of operations for the nine months ended September 30, 2023 and 2022:

(in thousands)	Nine Months Ended September 30, 2023	2022	Change Amount	Change %
Revenue	$ 113	$ —	$ 113	100.0%
Cost of goods sold	75	—	75	100.0%
Gross profit	38	—	38	100.0%
Operating expenses:				
Research and development	27,872	25,737	2,135	8.3%
Selling, general and administrative	10,021	12,235	(2,214)	(18.1%)
Total operating expenses	37,893	37,972	(79)	(0.2%)
Loss from operations	(37.855)	(37,972)	117	(0.3%)
Other income (expense), net	(20,056)	2,377	(22,433)	(943.8%)
Net loss and comprehensive loss	$(57,911)	$(35,595)	$(22,316)	62.7%

Nine Months Ended September 30, 2023 Compared to Nine Months Ended September 30, 2022

Revenue and Cost of Goods Sold

We commenced commercial activities in Germany in the first quarter of 2023. Prior to 2023, we had no revenue or costs of goods sold.

Operating Expenses

Research and Development Expenses

Research and development expenses increased by $2.1 million, or 8.3%, during the nine months ended September 30, 2023 as compared to the nine months ended September 30, 2022, primarily due to increased personnel related expenses as well as clinical and medical affairs expenditures. Personnel related expenses, including salaries, bonuses and certain fringe benefits, increased by $1.2 million as a result of the expansion of our workforce and annual merit increase in salary. In addition, stock-based compensation increased by $0.8 million related to new option grants issued to new hires and existing employees. Medical affairs expenses increased by $1.0 million, primarily driven by activities in connection with collaborative medical research. Clinical study expenses increased by $0.8 million due to the progress made in Revitalize-1 upon the approval of a new study protocol. These increases were partially offset by a decrease of $1.7 million in engineering expenditures as a result of reduced product development effort.

Selling, General and Administrative Expenses

Selling, general and administrative expenses decreased by $2.2 million, or 18.1%, during the nine months ended September 30, 2023 as compared to the nine months ended September 30, 2022, primarily due to the $2.7 million write-off of previously capitalized IPO costs recorded in the second quarter of 2022 as we delayed our initial IPO plan due to adverse market conditions in 2022. Offering costs related to the IPO effort in 2023 of approximately $1.4 million were capitalized and recorded as part of other long-term assets as of September 30, 2023. In addition, professional services spending related to public relations, recruiting and marketing activities also decreased by $2.0 million. These decreases were partially offset by an increase of $1.9 million in debt issuance costs and $0.3 million in personnel related expenses, including salaries, bonuses and certain fringe benefits.

Other Income (Expense), Net

Other income (expense), net changed by $22.4 million from net other income of $2.4 million during the nine months ended September 30, 2022 to net other expense of $20.0 million during the nine months ended September 30, 2023. The change was primarily contributable to change in fair value of notes payable and warrants, increased interest income and decreased loss from debt extinguishment.

We recognized a loss of $19.4 million from the increase in fair value of the 2022 Convertible Notes during the nine months ended September 30, 2023 compared to a gain of $2.2 million from the decrease in fair value of the 2022 Convertible Notes during the nine months ended September 30, 2022, resulting in a total fluctuation of $21.9 million between the two nine-month periods. The loss from increase in fair value of the 2022 Convertible Notes during the nine months ended September 30, 2023 was primarily driven by reduced remaining estimated time to assumed conversion events and the new debt terms associated with the reissuance of the 2022 Convertible Notes along with the concurrent issuance of warrants to purchase common stock. The gain from decrease in fair value of the 2022 Convertible Notes during the nine months ended September 30, 2022 was primarily driven by adverse external market conditions which resulted in declining estimated equity value, reduced probability-weighting of the IPO scenario and an increase in the estimated time to an IPO event. In addition, we also recognized a loss of $0.3 million from the increase in fair value of the 2023 Notes during the nine months ended September 30, 2023 related to interests accrued on the 2023 Notes.

We recognized a loss of $1.2 million from the increase in fair value of warrant liabilities during the nine months ended September 30, 2023, mainly related to the warrants issued in connection with the reissuance of the 2022 Convertible Notes in July 2023. The increase was primarily driven by an increase in estimated underlying equity value due to reduced remaining estimated time to assumed conversion events.

The changes in fair value above were partially offset by a $0.4 million increase in interest income earned from our cash deposits in the bank due to higher interest rates and $0.3 million less loss from debt extinguishment, which was a one-time expense incurred in January 2022 related to the early repayment of the Term Loans in January 2022.

Years Ended December 31, 2022 and 2021

The following table summarizes our consolidated results of operations for the years ended December 31, 2022 and 2021:

(in thousands)	Year Ended December 31, 2022	2021	Change Amount	%
Operating expenses:				
Research and development	$ 34,354	$ 26,435	$ 7,919	30.0%
Selling, general and administrative	15,031	10,493	4,538	43.2%
Total operating expenses	49,385	36,928	12,457	33.7%
Loss from operations	(49,385)	(36,928)	(12,457)	33.7%
Other income (expense), net	2,932	(1,807)	4,739	(262.3%)
Net loss and comprehensive loss	$(46,453)	$(38,735)	$ (7,718)	19.9%

Year Ended December 31, 2022 Compared to Year Ended December 31, 2021

Operating Expenses

Research and Development Expenses

Research and development expenses increased by $7.9 million, or 30.0%, during the year ended December 31, 2022 as compared to the year ended December 31, 2021, primarily due to increased personnel related expenses, product development expenses and investments in our Rejuva gene therapy platform. Personnel related expenses, including salaries, bonuses and certain fringe benefits, increased by $4.2 million as a result of the expansion of our workforce to support Revitalize-1 and the progress of our Rejuva program. In addition, stock-based compensation increased by $0.2 million related to new option grants issued to new hires and existing employees. Product development expenses increased by $2.5 million due to efforts to improve single use device design and develop next generation consoles. Expenditures related to our investment in our Rejuva gene therapy platform increased by $1.2 million as a result of positive progress made with respect to the program. Manufacturing expenses increased by $0.5 million as we increased production to prepare for the anticipated higher demand from Revitalize-1 enrollment. We also had a $0.3 million increase in medical affairs related activities such as medical education and communication. These increases were partially offset by a $1.6 million decrease in clinical expenditures primarily driven by our strategic decision to transition select clinical operations associated with Revitalize-1 in-house as well as decreased spending on a previous clinical study.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased by $4.5 million, or 43.2%, during the year ended December 31, 2022 as compared to the year ended December 31, 2021, primarily due to increased personnel

related expenses and public offering costs. Personnel related expenses, including salaries, bonuses and certain fringe benefits, increased by $1.1 million as a result of the expansion of our workforce to support our growth. Stock-based compensation also increased by $0.6 million related to new option grants issued to new hires and existing employees. In addition, in the second quarter of 2022, we recorded a write off of $2.7 million related to previously capitalized IPO costs as we delayed our initial IPO plan due to adverse market conditions in 2022.

Other Income (Expense), Net

Other income (expense), net changed by $4.7 million from net other expenses of $1.8 million during the year ended December 31, 2021 to net other income of $2.9 million during the year ended December 31, 2022, The change was primarily contributable to increased interest income, decreased interest expense and change in fair value of convertible notes payable. Interest income increased by $0.8 million due to higher interest rates in 2022. Interest expense decreased by $1.4 million as we fully repaid our Term Loans in January 2022. We also recognized a $2.3 million gain from the decrease in fair value of convertible notes payable associated with the 2022 Convertible Notes and a $0.5 million gain from the decrease in fair value of convertible preferred stock warrant liability. Both of the decreases in fair value were primarily driven by adverse external market conditions which resulted in declining estimated equity value, reduced probability-weighting of the IPO scenario and an increase in the estimated time to an IPO event. These increases were partially offset by a $0.3 million loss from debt extinguishment resulting from the early repayment of the Term Loans in January 2022.

Liquidity and Capital Resources

We believe that we maintain a level of liquidity sufficient to allow us to meet our cash needs in the short-term. Over the long-term, we manage our cash and capital structure to maximize shareholder return, maintain its financial condition and maintain flexibility for future strategic initiatives. We continuously assess our working capital needs, debt and leverage levels, debt maturity schedule, capital expenditure requirements and future investments.

As of December 31, 2022 and September 30, 2023 (unaudited), we had approximately $49.3 million and $44.5 million, respectively, in cash and cash equivalents. Our cash and cash equivalents at September 30, 2023 is not sufficient to fund our current operating plan for at least 12 months from the issuance date of this prospectus.

Loan and Security Agreements

2019 Notes

In February 2019, we entered into a loan and security agreement with SVB, or the 2019 Note, that provided for borrowings of up to $15 million in two Term Loan advances defined as “Term A Loan” and “Term B Loan”, collectively referred to as the Term Loans. On February 5, 2019, we drew down $3 million under Term A Loan, and on May 31, 2019, we drew down an additional $7 million under Term A Loan. On October 3, 2019, we drew down $5 million under Term B Loan.

The outstanding balances under the Term Loans bear interest at a floating annual rate that equals the greater of 1.5% above the Wall Street Journal prime rate or 6.75%. The Term Loans initially required interest-only repayments through December 31, 2020. After the interest-only period, the Term Loans require 24 equal monthly principal repayments of the outstanding balances plus accrued interest through the maturity date on December 1, 2022.

On the date that the 2019 Note is paid in full or becomes due and payable, we are required to make a payment, or the Final Payment, in addition to the regular monthly payments of principal plus accrued interest, equal to 6% of the original principal amount of the Term Loans extended by the lender.

In February 2019, in connection with entering into the 2019 Note, we issued to SVB and an affiliated investor warrants to purchase up to an aggregate of 257,380 shares of our common stock, at an exercise price of

$1.55 per share, or the 2019 warrants Of the 257,380 shares, 171,606 shares were exercisable upon the issuance of the warrants and an additional 85,774 shares became exercisable upon the drawdown of the Term B Loan. The 2019 warrants have a contractual term of ten years from the date of issuance. As of September 30, 2023, the 2019 warrants have not been exercised.

On December 31, 2020 and February 26, 2021, we entered into two amendments to the 2019 Note, or the Amendments, whereby the Term Loans were amended to extend the interest-only period through December 31, 2021, upon achievement of certain clinical milestone as specified in the Amendments, with principal to be repaid equally over 12 consecutive calendar months starting January 1, 2022. In connection with entering into the first Amendment, we issued to SVB and an affiliated investor, warrants to purchase up to an aggregate of 89,452 shares of the our common stock, at an exercise price of $1.81 per share, or the 2020 warrants The 2020 warrants expire ten years from the date of issuance. As of September 30, 2023, the 2020 warrants have not been exercised.

As of December 31, 2021, we had outstanding balance of the Term Loans under the Loan and Security Agreement of $15.7 million. On January 3, 2022, we repaid in full the Term Loans under the Loan and Security Agreement by making a lump-sum payment to SVB for a total amount of $16.1 million, which consisted of the outstanding principal balance of the Term Loans of $15.0 million, the Final Payment of $0.9 million, the prepayment premium of $0.1 million and accrued interest of $0.1 million.

2022 Convertible Notes

On January 11, 2022, we entered into a financing arrangement with certain lenders in which we issued the 2022 Convertible Notes in exchange for an aggregate principal amount of $20.1 million.

Effective upon the closing of an equity financing event, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes will automatically be converted into shares of the same class and series of capital stock of we issued to other investors in the financing event at a conversion price equal to (i) in the event of an IPO, 80% of the price per share of the public company securities paid by other investors in the IPO; or (ii) in the event of a non-IPO, 80% of the opening price on the applicable stock exchange on the closing date; or (iii) in the event of a private financing round, 80% of the price per share of the financing securities paid by other investors in the financing round. In no event should the conversion price be (a) less than the amount equal to $875.0 million divided by our fully diluted capitalization as of immediately prior to the closing of the financing event, or the Floor Valuation; or (b) more than an amount equal to $1.1 billion divided by our fully diluted capitalization as of immediately prior to the closing of the financing event, or the Valuation Cap.

In the event of a Change of Control, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes will, at the option of the Lenders, (1) be repaid in cash as of the closing of such Change of Control; or (2) be converted into our common stock at a conversion price equal to 80% of the fair market value of our common stock as determined in good faith by our Board of Directors, provided that, if the successor company is a publicly traded issuer, the conversion price will be determined by a volume-weighted average price per share of the successor company's stock on the applicable stock exchange for the five trading days prior to the Change of Control; and provided further that, in the event stockholders are to receive any non-cash consideration pursuant to the Change of Control, the Lenders shall receive the same non-cash consideration, in the same proportion, and the value of such non-cash consideration received by the Lenders shall be determined in accordance with the agreement governing such Change of Control. In no event should the conversion price be less than the Floor Valuation or more than the Valuation Cap.

On July 11, 2023, we repaid $0.1 million in cash to one of the original lenders and issued amended and restated convertible notes to certain of the lenders in replacement of, but not in payment of, the remainder of the 2022 Convertible Notes. As a part of these amendments, among other changes, such lenders agreed to extend the maturity date of the outstanding principal and accrued but unpaid interest on the 2022 Convertible Notes to December 31, 2024, or the Amended Maturity Date, and remove the Floor Valuation. Following these

amendments, $20.9 million in aggregate principal under the 2022 Convertible Notes will remain outstanding and accrue interest at the rate of 10% per year until they are paid or converted in full. In connection with entering into these amendments, we issued to such lenders warrants, or the July 2023 warrants, to purchase shares of our common stock immediately exercisable for a variable number of shares based on the principal amount of the 2022 Convertible Notes, as amended, of $20.9 million and an exercise price, at the holders' choice, of (a) $8.3843 per share, (b) the lowest original issue price of shares of Preferred Stock we issue in our next bona fide private preferred equity financing round, (c) in the event of any convertible note, or similar convertible security financing, the conversion price contemplated by such convertible security, or (d) in the event of an IPO, the per share offering price to the public in such IPO. The July 2023 warrants have a contractual term of ten years from issuance.

In the event the 2022 Convertible Notes are still outstanding on the Amended Maturity Date, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes would be converted, at the option of the holders, into shares of our Series F Preferred Stock.

As of September 30, 2023 and December 31, 2022, the balance of the 2022 Convertible Notes was carried at its fair value of $27.2 million and $17.8 million, respectively.

2023 Notes

On September 7, 2023, we entered into a credit agreement, as amended from time to time, with Symbiotic Capital Opportunities Holding, L.P. and Catalio Structured Opportunities AIV I LP, or the Lenders, that provides for term loans in an aggregate principal amount of $45.0 million, or the 2023 Notes, payable in two tranches. The first tranche, with a principal amount of $30.0 million, was extended on September 7, 2023, resulting in net proceeds of approximately $28.4 million. The second tranche, with a principal amount of $15.0 million, may be extended upon our achievement of certain operating and funding milestones as defined in the 2023 Notes, by July 31, 2024. The 2023 Notes also provide for a third tranche with an uncommitted principal amount of $20.0 million that may be extended to us, subject to the Lenders' prior written consent in their sole discretion.

The credit agreement, as amended, contains the following financial covenants: (i) a minimum liquidity covenant requiring us to maintain a minimum $10.0 million balance in cash and cash equivalents on deposit in accounts, subject to certain exceptions, and (ii) a financing milestone covenant requiring that (a) we have received proceeds from an equity financing or series of financings of at least $40.0 million during the period commencing on September 7, 2023, or the Closing Date, and ending on or prior to February 15, 2024, and (b) we have received equity financing or series of financings of at least $100.0 million (inclusive of such equity financing or series of financings in the preceding clause (a)) during the period commencing as of the Closing Date and prior to June 30, 2024.

The outstanding balances under the 2023 Notes bear interest at a floating annual rate equal to the greater of 5.5% above the Wall Street Journal prime rate or 13.25%. On and prior to September 30, 2024, 6.0% of the interest is payable in kind and added to the outstanding principal amount of the 2023 Notes. Beginning September 30, 2026, we are required to make principal payments in the amount of 1.5% of the aggregate principal amount outstanding, including accrued PIK interest, each month. The first principal payment date can be extended to September 30, 2027, at our election, if certain financing milestones as defined in the 2023 Notes are achieved on or prior to September 30, 2026. In addition, upon any principal payment, we are required to make an additional payment to the Lenders a 6.0% fee, or the Exit Fee, over the principal and accrued PIK interest paid. The aggregate Exit Fee of the 2023 Notes should equal to 6.0% of the total commitment of $45.0 million plus all accrued PIK interest. All remaining outstanding principal balance, accrued interest and Exit Fee on the 2023 Notes shall be due and payable on the maturity date of September 7, 2028.

In connection with entering into the 2023 Notes, we issued to the Lenders warrants, or the September 2023 warrants, to purchase, at the holders' choice, shares of (i) our Series F Preferred Stock, (ii) the most senior series of our preferred stock that is then authorized, or (iii) our common stock. The September 2023 warrants are

immediately exercisable for a variable number of shares based on a total fixed dollar value, of $4.2 million, and an exercise price, at the holders' choice, of (a) $8.3843 per share, (b) the lowest original issue price of any series of preferred stock we issue after the issuance date of the September 2023 warrants, (c) the conversion or exercise price of any convertible debt security, option, or warrant we issue after the issuance date of the September 2023 warrants, or (d) the price at which our common equity was first sold to the public in a firm-commitment underwritten offering or otherwise. The September 2023 warrants have a contractual term of ten years from issuance.

As of September 30, 2023, the balance of the 2023 Notes was carried at its fair value of $27.5 million.

Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing research and development activities, particularly as we advance our product candidates. In the United States, we do not have any products approved for sale and have not generated any revenue from any sources, including product sales. Revita is approved in Europe under a CE Mark and has received reimbursement authorization in Germany. We initiated a pilot commercial launch of Revita in Germany in the first quarter of 2023 and has since generated insignificant revenue due to the limited scope of the launch. In addition, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company. As a result, we expect to incur substantial operating losses and negative operating cash flows for the foreseeable future.

As of September 30, 2023, we had cash and cash equivalents of $44.5 million. We believe that our existing cash and cash equivalents and the net proceeds from this offering, will enable us to fund our operating expenses, debt repayment obligations and capital expenditure requirements into . We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect.

Because of the numerous risks and uncertainties associated with product development, and because the extent to which we may enter into collaborations with third parties for the development of our product candidates is unknown, we may incorrectly estimate the timing and amounts of increased capital outlays and operating expenses associated with completing the research and development of our product candidates. Our funding requirements and timing and amount of our operating expenditures will depend on many factors, including, but not limited to:

- the scope, progress, results and costs of research and development for our current and future product candidates, including our current and planned Revita clinical studies, and ongoing preclinical development for our current and future product candidates;
- the scope, prioritization and number of our research and development programs;
- the scope, costs, timing and outcome of regulatory review of our product candidates;
- the costs of securing manufacturing materials for use in preclinical and clinical studies and, for any product candidates for which we receive regulatory approval, use as commercial supply;
- our ability to seek, establish and maintain a collaboration to develop our product candidate with a collaborator, including the financial terms and any cost-sharing arrangements of any such collaboration;
- the costs and timing of future commercialization activities for any of our product candidates for which we receive regulatory approval;
- the amount and timing of revenue, if any, received from commercial sales of any product candidates for which we receive regulatory approvals;

- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property and proprietary rights and defending any intellectual property-related claims;

- the extent to which we may acquire or in-license other products, product candidates, technologies or intellectual property, as well as the terms of any such arrangements; and

- the costs of continuing to expand our operations and operating as a public company.

Identifying potential product candidates and conducting preclinical testing and clinical studies is a time consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory approval and achieve product sales in the United States or elsewhere. Revita is approved in Europe under a CE Mark and has received reimbursement authorization in Germany. We initiated a pilot commercial launch of Revita in Germany in the first quarter of 2023 and has since generated insignificant revenue due to the limited scope of the launch. In addition, our product candidates, if approved, may not achieve commercial success. Accordingly, we will need to obtain substantial additional funds to achieve our business objectives.

Our expectation with respect to our ability to fund current planned operations is based on estimates that are subject to risks and uncertainties. Our operating plan may change as a result of many factors currently unknown to management and there can be no assurance that the current operating plan will be achieved in the time frame anticipated by us, and we may need to seek additional funds sooner than planned.

Adequate additional funds may not be available to us on acceptable terms, or at all. Market volatility resulting from pandemics, monetary policy changes, or other factors could also adversely impact our ability to access capital as and when needed. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Additional debt financing and convertible preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends and may require the issuance of warrants, which could potentially dilute your ownership interest.

If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may have to significantly delay, reduce or eliminate some or all of our product development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

For additional information on risks associated with our substantial capital requirements, please see “Risk Factors—Risks Related to Financial Condition and Capital Requirements.”

Even if this offering is successful, we will require substantial additional capital to finance our operations. If we are unable to raise such capital when needed, or on acceptable terms, we may be forced to delay, reduce and/or eliminate one or more of our research and development programs or future commercialization efforts.

Cash Flows

Unaudited Nine Months Ended September 30, 2023 and 2022

The net change in cash, cash equivalents and restricted cash for the unaudited nine months ended September 30, 2023 and 2022 was as follows:

	Nine Months Ended September 30,	
(in thousands)	**2023**	**2022**
Net cash used in operating activities	$(32,224)	$(33,709)
Net cash used in investing activities	(223)	(56)
Net cash provided by financing activities	27,993	4,352
Net decrease in cash, cash equivalents and restricted cash	$ (4,454)	$ (29,413)

Operating Activities

Cash used in operating activities for the nine months ended September 30, 2023 of $32.2 million was primarily driven by personnel related expenses, including salaries, bonuses, and fringe benefits, and spending on our ongoing Revitalize-1 study, Rejuva-related research activities, as well as professional services related to our corporate and general administrative activities. Our net loss of $57.9 million was partially offset by non-cash expenses of $23.9 million, including $19.5 million loss from change in fair value of notes payable, $1.2 million loss from change in fair value of warrant liabilities, $3.0 million of stock-based compensation, and $0.2 million of depreciation expense. In addition, $1.9 million of the net loss was related to debt issuance costs that were presented in cash used in financing activities. Cash used in operating activities was also impacted by changes in working capital and other assets and liabilities of $(0.2) million.

Cash used in operating activities for the nine months ended September 30, 2022 of $33.7 million was primarily driven by personnel related expenses, including salaries, bonuses, and fringe benefits, spending on our ongoing clinical studies, product engineering, Rejuva- related research activities as well as professional services related to our corporate and general administrative activities. Cash used in operating activities was primarily a result of our net loss of $35.6 million. Non-cash expenses for the nine months ended September 30, 2022 included $2.2 million of stock-based compensation, $0.4 million of depreciation expense, and $0.3 million loss on debt extinguishment, which were offset by $2.2 million gain from change in fair value of notes payable, and $0.1 million gain from change in fair value of convertible preferred stock warrant liability. Cash used in operating activities was also impacted by changes in working capital and other assets and liabilities of $1.3 million.

Investing Activities

Cash used in investing activities for the nine months ended September 30, 2023 and 2022 were related to the purchase of property and equipment.

Financing Activities

Cash provided by financing activities of $28.0 million for the nine months ended September 30, 2023 was primarily driven by the $28.4 million capital raised from the issuance of the 2023 Notes, net of issuance costs, partially offset by an additional issuance costs of $0.3 million paid to third party service providers such as legal fees, and a $0.1 million partial repayment of the 2022 Convertible Notes.

Cash provided by financing activities of $4.4 million for the nine months ended September 30, 2022 was primarily driven by $20.1 million capital raised from the issuance of the 2022 Convertible Notes, net of issuance costs, offset by $16.0 million repayment of the Term Loans. We also received proceeds of $0.3 million from stock option exercises.

Years Ended December 31, 2022 and 2021

The net change in cash, cash equivalents and restricted cash for the years ended December 31, 2022 and 2021 was as follows:

	Year Ended December 31,	
(in thousands)	2022	2021
Net cash used in operating activities	$ (46,243)	$ (33,462)
Net cash used in investing activities	(56)	(51)
Net cash provided by financing activities	4,350	99,879
Net (decrease) increase in cash, cash equivalents and restricted cash	$(41,949)	$ 66,366

Operating Activities

Cash used in operating activities for the year ended December 31, 2022 was primarily driven by personnel related expenses, including salaries, bonuses, and fringe benefits, spending on our ongoing clinical studies and product engineering as well as professional services related to our corporate and general administrative activities. Our net loss of $46.5 million was partially offset by non-cash items totaling $1.5 million, including $0.5 million of depreciation expense, $0.3 million loss on debt extinguishment, $3.1 million of stock-based compensation, net by $0.1 million gain from change in fair value of convertible preferred stock warrant liability, and $2.3 million gain from change in fair value of convertible notes payable. Cash used in operating activities was also impacted by changes in working capital and other assets and liabilities of $1.2 million.

Cash used in operating activities for the year ended December 31, 2021 was primarily driven by personnel related expenses, including salaries, bonuses, and fringe benefits, spending on our ongoing clinical studies as well as professional services related to our corporate and general administrative activities. Our net loss of $38.7 million was partially offset by non-cash items of $3.6 million, including $0.7 million of depreciation expense, $2.1 million of stock-based compensation, $0.4 million of non-cash interest expense related to the Term Loans, and $0.4 million loss from change in fair value of convertible preferred stock warrant liability. Cash used in operating activities was also impacted by changes in working capital and other assets and liabilities of $1.7 million.

Investing Activities

Cash used in investing activities for the years ended December 31, 2022 and 2021 were related to the purchase of property and equipment.

Financing Activities

Cash provided by financing activities of $4.4 million for the year ended December 31, 2022 was primarily driven by $20.1 million capital raised from the issuance of the 2022 Convertible Notes, offset by $16.0 million repayment of the Term Loans. We also received proceeds of $0.3 million from stock option exercises.

Cash provided by financing activities of $99.9 million for the year ended December 31, 2021 was primarily driven by capital raised from the issuance of Series F Preferred Stock, net of issuance costs.

Going Concern

We have financed our operations to date primarily through sales of convertible preferred stock and debt financing. As of September 30, 2023, we had cash and cash equivalents totaling $44.5 million and net working capital of $38.4 million. We have a history of operating losses and had an accumulated deficit of $327.4 million as of September 30, 2023.

Our future success is dependent on our ability to develop product candidates and ultimately upon our ability to attain profitable operations. We are subject to a number of risks similar to other early-stage life science companies, including, but not limited to, successful discovery and development of its product candidates, raising additional capital with favorable terms, development by its competitors of new technological innovations, protection of proprietary technology and market acceptance of our products. The successful discovery and development of product candidates requires substantial working capital which may not be available to us on favorable terms or not at all.

We have generated insignificant revenue from product sales since our limited pilot commercial launch in Germany in the first quarter of 2023. Management does not anticipate generating revenue from product sales in the United States unless and until we successfully complete clinical development and obtain marketing approvals from one or more of the product candidates. As a result, management expects continuing operating losses in the future. We do not believe that our available cash and cash equivalents of $44.5 million as of September 30, 2023 is sufficient to fund our current operating plan for at least twelve months after the date the consolidated financial statements are issued. We expect to seek additional funds through equity or debt financings or through additional collaboration, licensing transactions or other sources. We may be unable to obtain equity or debt financings or enter into additional collaboration or licensing transactions and, if necessary, we will be required to implement cost reduction strategies, which could curtail or delay our current clinical activities. As a result, substantial doubt exists about our ability to continue as a going concern. The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

Our 2022 Convertible Notes issued in January 2022 and amended on July 11, 2023 accrue interest at a fixed annual rate of 10%, so they do not give rise to interest rate exposure associated with changes in interest rates. Our term loans drawn under the 2023 Notes require monthly payment of interest at a floating annual rate that equals the greater of 5.5% above the Wall Street Journal prime rate or 13.25%, 6% of which is payable in kind and added to the outstanding principal amount of the loans until September 30, 2024. We do not believe that an immediate 10% increase or decrease in the Wall Street Journal prime rate would have a material effect on our operating results.

Credit Risk

As of September 30, 2023, the majority of our cash and cash equivalents were maintained at various financial institutions in the United States, and our current deposits are in excess of insured limits. We believe the financial institutions that maintain our cash and cash equivalents possess sufficient assets and liquidity to conduct their operations in the ordinary course of business with little or no credit risk to us.

Foreign Currency Risk

Substantially all of our business is currently conducted in U.S. dollars. We do not believe that an immediate 10% increase or decrease in the relative value of the U.S. dollar to other currencies would have a material effect on our operating results.

Inflation Risk

Inflationary factors, such as increases in our operating expenses, may adversely affect our operating results. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, a high rate of inflation in the future may significantly increase our operating expenses.

Recent Accounting Pronouncements

See Note 2 to our audited Consolidated Financial Statements for the years ended December 31, 2022 and 2021 as well as Note 2 to our unaudited Consolidated Financial Statements for the nine months ended September 30, 2023 included elsewhere in this prospectus for more information.

JOBS Act Accounting Election

We are an "emerging growth company" within the meaning of the Jumpstart Our Business Act of 2012, or JOBS Act. Section 107(b) of the JOBS Act provides that an emerging growth company can leverage the extended transition period, provided in Section 102(b) of the JOBS Act, for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. We have elected to use this extended transition period and, as a result, our financial statements may not be comparable to companies that comply with public company effective dates. We also intend to rely on other exemptions provided by the JOBS Act, including without limitation, not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002.

We would cease to be an emerging growth company on the date that is the earliest of (1) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (2) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (3) the date on which we have issued more than $1.0 billion in non-convertible debt during the previous three years or (4) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission.

A Letter From Our Co-Founder

In the course of human history, metabolic diseases like type 2 diabetes and obesity have recently emerged as the principal constraint on human health, longevity and productivity. In the United States alone, approximately 100 million people have prediabetes and/or obesity and are at risk of disease progression. By 2030, we will be spending $2 trillion a year worldwide combating type 2 diabetes alone (and still losing). If we want a healthier society, we need to unlock a better approach to treating metabolic diseases.

I have unfortunately seen firsthand how type 2 diabetes can have devastating physical and mental implications for those afflicted with the disease. I have observed the impact of diabetes not only as a cardiologist and researcher, but also as a son to a father struggling with the disease and its burdensome daily management. I have been constantly frustrated observing people living with diabetes, including my father, who continue to worsen as they battle this debilitating disease despite their best efforts using today's available treatments. Disease progression continues to worsen in our patients despite decades of investment and research and an ever-increasing number of disease management options. The current treatment paradigm is simply not working for most people living with type 2 diabetes.

Many people mistakenly assume that type 2 diabetes and obesity are simply the fault of people who make poor choices and then suffer the consequences of these choices. There is a lot of blaming and shaming of patients with type 2 diabetes and obesity in the United States, driven by a mindset that assumes behavioral weakness, human error, and lack of self-care. We believe this blame mindset is not only wrong, but dangerous. It's dangerous because we have allowed ourselves to consider these diseases as gluttonous problems of human choice rather than correctable problems of human physiology.

Our bodies are simply not designed for the abundant food environment of the modern world. We are built for an ancient world, a world in which food was scarce, not particularly tasty, and often not available when it was needed. Our ancestors, whose genes allowed them to survive through difficult times, passed those very same genes down to us – genes that now significantly increase the risk of type 2 diabetes in the modern world. This disease of excess blood sugar has arisen as an unintended, yet inevitable, consequence of this mismatch between our ancient genes and our modern dietary environment.

My co-founder, Jay Caplan, and I started Fractyl Health with the belief that a better understanding of the root causes of metabolic disease will create a pathway to new and better solutions that can address the significant residual unmet need in their treatment. We have assembled a mission-driven team full of innovators, united in a passion to develop therapies aiming to eradicate type 2 diabetes and obesity—the type of therapies we would want for our family members and loved ones with the disease.

Fractyl Health's purpose is to defend humanity from the metabolic diseases of modernity. Over the past several years, we have gained a deeper understanding of the changes that occur in the gut and pancreas in response to modern diets. We are singularly focused on developing therapies that are designed to target the root causes of metabolic diseases and delivering our therapies as broadly as possible to as many patients as possible as rapidly as possible.

We believe this approach is better for patients, better for physicians and better for society. Turning the tide on type 2 diabetes and obesity is achievable, but it requires intestinal fortitude. It takes guts.

Co-Founder and Chief Executive Officer

BUSINESS

Overview

We are a metabolic therapeutics company focused on pioneering new approaches to the treatment of metabolic diseases, including type 2 diabetes and obesity. Despite advances in treatment over the last 50 years, type 2 diabetes, or T2D, and obesity continue to be principal and rapidly growing drivers of morbidity and mortality. According to the Centers for Disease Control and the International Diabetes Federation, approximately 100 million people in the United States have prediabetes and/or obesity, and an additional 25 million people have T2D on medical therapy. In 2022, there was an estimated $65 billion in annual pharmaceutical spending on drugs aimed at controlling glucose and body weight, all attributable to medicines requiring chronic administration, none of which modifies underlying disease progression. Highly potent drugs in the GLP-1RA class are now available to lower blood sugar, lower weight, and prevent cardiovascular mortality, but up to two-thirds of patients discontinue weekly GLP-1RA therapy within the first year, which typically leads to an immediate loss of metabolic benefit and weight rebound. We believe the unmet need has now shifted from temporary glucose lowering and weight loss strategies to approaches that can enable durable maintenance of metabolic health without daily or weekly pharmacotherapy. Our goal is to develop durable disease-modifying therapies that are designed to provide long-term maintenance of metabolic health without requiring lifetime treatment by targeting the organ-level root causes of T2D and obesity. We believe there is significant clinical and economic opportunity for new approaches to achieve a major leap forward by enabling long-term control over T2D and obesity without the burden of chronic therapies.

Emerging consensus on the role of the gut in driving human metabolic disease led our founders to design novel, differentiated disease-modifying therapies aiming to advance patient care from management into prevention and remission of underlying disease. The Revita DMR System, or Revita, our lead product candidate, is an outpatient procedural therapy designed to durably modify duodenal dysfunction, a major pathologic consequence of a high fat and high sugar diet, which can initiate T2D and obesity in humans. The duodenum regulates the human metabolic response to food intake, and modern diets drive dysfunctional hyperplasia of the duodenal mucosa. This results in alterations to physiologic signaling that affect glucose control and satiety. The Revita system is designed to enable durable and repeatable metabolic improvement via hydrothermal ablation of the dysfunctional duodenal mucosa to address duodenal pathology and consequent metabolic disease progression directly. We have observed the Revita DMR Procedure to be generally well tolerated and to have demonstrated durable blood glucose lowering and weight maintenance for two years post-procedure in controlled studies of patients with T2D who are inadequately controlled despite already taking certain ADAs and receiving lifestyle counseling. We have initiated a broad clinical program designed to evaluate Revita in multiple clinical studies across a range of patient populations from prediabetes and obesity to advanced T2D patients on long-acting insulin. We have obtained Breakthrough Device designation from the U.S. Food and Drug Administration, or the FDA, for Revita to perform hydrothermal ablation of the duodenal mucosa, or the Revita DMR Procedure, to improve glycemic control and eliminate insulin needs in T2D patients who are inadequately controlled on long-acting insulin.

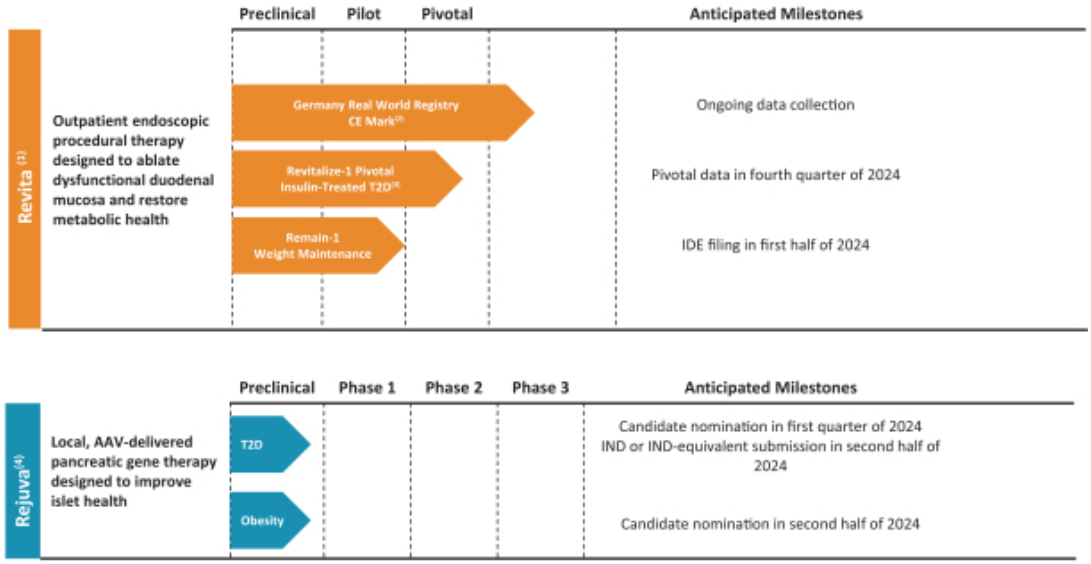
We are currently enrolling our pivotal Revitalize-1 study in patients with inadequately controlled T2D despite being on up to three anti-diabetic agents, or ADAs, and daily insulin. We are also planning to evaluate Revita in a clinical study, which we refer to as the Remain-1 study, for weight maintenance in patients with obesity who have lost weight on GLP-1RA therapy and wish to discontinue their GLP-1RA without weight regain. We expect to submit an IDE and comparable documents to the FDA and comparable foreign regulatory authorities or notified bodies in the first half of 2024 for a potentially pivotal Remain-1 study. Revita is already approved for patients with inadequately controlled T2D in Europe. After securing reimbursement in Germany in the first half of 2023, we initiated our pilot commercial launch along with a Real World Registry study. We believe Revita has the potential to serve as a backbone therapy to prevent progression of T2D and for the prevention of weight gain, working in concert with behavioral therapies and standard of care pharmacology.

We are also developing Rejuva, a novel, locally administered, adeno-associated virus, or AAV, delivered pancreatic gene therapy, or PGTx, platform. Rejuva is designed to enable long-term remission of T2D and obesity by durably altering metabolic hormone function in the pancreatic islet cells of patients with. In a preclinical head-to-head study, a glucagon-like peptide 1, or GLP-1, PGTx candidate demonstrated improvement in glycemic control, delayed T2D progression and reduction in weight compared to semaglutide (the active agent in Ozempic and Wegovy), an FDA-approved GLP-1RA. We believe these results highlight the potential benefits of metabolic treatment at the locus of disease in the pancreas. Our approach to pancreatic gene therapy is enabled by our expertise in developing proprietary delivery systems that target the gut locally and precisely. We plan to nominate our first GLP-1 PGTx candidate for T2D in the first quarter of 2024 and expect to submit an Investigational New Drug application, or IND, or IND-equivalent for our nominated candidate in the second half of 2024.

We believe Revita and Rejuva, if approved, have the potential to revolutionize treatment across the spectrum of T2D and obesity, align the clinical and economic interests of key stakeholders around the long-term regression of metabolic disease, and, at their fullest potential, significantly reduce the burden of metabolic disease globally.

Our Development Pipeline

Our development pipeline for Revita and Rejuva PGTx candidates target large market indications in T2D and obesity and aim to transform treatment from chronic symptom management to disease-modifying therapies that target the organ-level root causes of metabolic disease. The following table summarizes our development pipeline and potential clinical opportunities across the spectrum of metabolic disease, from advanced T2D on insulin to obesity and prediabetes:



(1) Revita has been granted Breakthrough Device designation for the hydrothermal ablation of the duodenal mucosa to improve glycemic control and eliminate insulin needs in T2D patients inadequately controlled on long-acting insulin; and CE mark obtained from EU and UK in 2016 for Revita for the improvement of glycemic control in patients with inadequately controlled T2D despite oral and/or injectable glucose lowering medications and/or long-acting insulin.
(2) The Germany Real World Registry study is a post-market, clinical follow-up study in real-world patients with inadequately controlled T2D on at least one ADA.
(3) The Revitalize-1 study is a pivotal study in patients with inadequately controlled T2D despite being on up to three ADAs and daily insulin.
(4) Product candidates under out Rejuva gene therapy platform will undergo Phase 1, Phase 2 and Phase 3 clinical trials. IND = Investigational New Drug Application with FDA or comparable regulatory body; IDE = Investigational Device Exemption.

Our Team

We were founded by our Chief Executive Officer, Harith Rajagopalan, M.D., Ph.D., and our President and Chief Product Officer, Jay D. Caplan, with the goal of developing innovative procedures and novel therapeutics to improve the lives of patients with metabolic diseases, initially targeting T2D. Before starting Fractyl Health, Dr. Rajagopalan was a physician scientist and cardiovascular fellow at Brigham and Women's Hospital. During his M.D./Ph.D. training at Johns Hopkins, Dr. Rajagopalan did award winning research on mechanisms of colorectal cancer formation with significant implications on cancer metabolism and published in leading scientific journals, including *Nature* and *Science*. Dr. Rajagopalan's background in intestinal biology, cardiovascular medicine and stem cell research has contributed to the founding scientific insight behind Fractyl Health: intestinal stem cell biology fundamentally helps to explain one of the root causes of obesity and metabolic disease in humans, along with the attendant health consequences, including T2D, cardiovascular disease, or CVD, and colorectal cancer. Mr. Caplan is an electrical engineer by training and an experienced life sciences executive with an extensive track record of developing transformational medical products, including at ThermoCardio with the development of the HeartMate 2 Left Ventricular Assist Device. Our multi-disciplinary team consists of both seasoned biopharmaceutical and medical device professionals with deep industry experience. Our team brings together experts across multiple areas, including endocrinology (particularly in metabolic diseases), gastroenterology, endoscopy, engineering and medical device development. Members of our team have worked with well-regarded biopharmaceutical and medical technology companies, such as Pfizer, AbbVie and Abbott, and we are supported by a leading group of life sciences investors.

What Sets Us Apart

Our vision is to develop transformative therapies that can prevent and eliminate metabolic disease. Our culture of scientific rigor and innovation is entrenched in all aspects of our organization and informs our goal of disrupting the current, inadequate chronic care model in T2D and obesity. We are focused on developing disease-modifying therapies to treat metabolic diseases by targeting the gut and pancreas, driving widespread adoption of our novel approach, delivering on the promise of improved experience for patients and health systems, and also potentially reducing costs for the healthcare system. We believe our vision is supported by the following strengths:

- ***Pioneering New Approaches Based on Deep Understanding of Metabolic Diseases.*** We are pioneering the development of disease-modifying therapies targeting the organ level root cause of metabolic disease. Our approach builds on over a decade of our research and the accumulation of independently published, supportive clinical evidence, all implicating the gut and pancreas as validated, untapped targets in T2D and obesity. We aim to restore and preserve the health of the key organs required for metabolic fitness and reduce the burden of metabolic disease for patients.

- ***Developing Disease-Modifying Therapies that Provide Long-Term Metabolic Benefits and the Potential to Shift the Treatment Paradigm in T2D and Obesity.*** Our Revita and Rejuva programs are designed to target dysfunction in the duodenum and pancreas, respectively, to provide long-term metabolic benefits from a single administration. For this reason, Revita and Rejuva offer the potential to target T2D and obesity in a manner that we believe is not addressed with currently available therapies, including the prevention and remission of the disease. Specifically, Revita has the potential to play a significant role in preventing T2D onset and weight gain, while Rejuva has the potential to drive remission of T2D and achieve durable weight loss. We believe Revita and Rejuva's unique features can provide significantly differentiated and compelling solutions to address the large unmet need in these metabolic diseases. If successful, we believe these programs can fundamentally disrupt the chronic care model for patients with or at risk for T2D and obesity, and could offer several key advantages, including sustained clinical benefit in glucose control and weight loss and reduced long-term disease management burden for patients.

- ***Rigorous Approach to Clinical Development.*** The Revita clinical program is designed to advance the development of Revita to potentially become a backbone procedural therapy across the spectrum of T2D and obesity. To date, we have evaluated Revita in over 300 patients across multiple clinical studies and we have observed over 500 patient-years of exposure data, favorable tolerability data, as well as favorable glycemic control and weight maintenance data. Our Rejuva platform with GLP-1 PGTx candidates has been evaluated in small and large animal models, as well as *ex vivo* murine and human islets. In a head-to-head preclinical study in a *db/db* mouse model, a GLP-1 PGTx candidate demonstrated improved glucose control, prevention of T2D progression and prevention of weight again compared to semaglutide, an FDA-approved GLP-1 receptor agonist, or GLP-1RA. We plan to leverage our extensive clinical experience with Revita to inform our clinical plans with our Rejuva PGTx candidates.

- ***Aligning Interests of Key Stakeholders: Patients, Referring Physicians, Providers and Payors.*** We believe Revita and Rejuva, if approved, have the potential to offer clinical and economic benefits while reducing the burden of disease management compared to the current standard of care in T2D and obesity. We believe both programs have the potential to broadly align interests across key stakeholders involved in the treatment of T2D and obesity, and may have the following benefits to these groups:

  - *Patients.* Improving weight and glycemic control while reducing the number and burden of therapies required to adequately control T2D and obesity.

  - *Referring Physicians.* Preventing weight gain and lowering HbA1c for specific patient populations with a procedural therapy that reduces the workload in disease management (i.e., rigorous patient medication, diet adherence) and improves quality metrics associated with the disease.

  - *Providers.* Straightforward, easy to train outpatient procedures, which we believe could be safely deployed at scale across a large patient population. Intended to seamlessly integrate into existing endoscopist workflows and provide a new, potentially profitable service line for hospitals with a patient-friendly therapeutic option for a significant portion of their patients.

  - *Payors.* Significant health economic benefits for payors who are currently struggling with the increasing expenses of T2D and obesity, driven primarily by unchecked disease progression and the lack of disease-modifying therapies.

- ***Purpose-Built Leadership Team with Shared Mission to Advance Patient Care in Metabolic Disease.*** Our diverse team, combining marketing, product development and therapeutic expertise, has over 150 years of collective experience in therapeutic development. We are mission-driven to develop novel disease-modifying therapies that can potentially reverse metabolic diseases for patients and for health systems. Our team aims to continuously advance and expand upon our body of knowledge in order to establish and maintain a scientific leadership position in our therapeutic areas of focus. We do so by collaborating with expert advisors who are leaders in metabolic disease, endocrine signaling and endoscopy. As part of these ongoing efforts, we have also convened the Erase T2D Task Force, a group of academic and scientific experts in the metabolic disease space, to serve as key advisors as we develop our understanding of the role of the gut in T2D. The Erase T2D Task Force is co-chaired by our CEO, Harith Rajagopalan, M.D., Ph.D., and Alan Cherrington, Ph.D., the former President of the American Diabetes Association and the winner of its Banting Medal for Scientific Achievement. Other members of the Erase Task Force include Geltrude Mingrone, M.D., Ph.D., David D'Alessio, M.D., and Randy Seeley, Ph.D.

Growth Strategies

Our mission is to develop transformative therapies that prevent and eliminate metabolic disease. In order to achieve this goal, we plan to employ the following strategies:

- ***Establish Practice-Changing Levels of Evidence for Revita Across the Spectrum of T2D and Obesity.*** Our stepwise approach to regulatory approvals will initially focus on patients with the highest unmet need in T2D, namely those treated with long-acting insulin, and obesity, and then progress to patients in earlier stages of T2D, and patients with high risk prediabetes. In March 2021, we initiated Revitalize-1, a pivotal clinical study of Revita in patients with inadequately controlled T2D despite being on multiple ADAs and insulin, and expect topline data in the fourth quarter of 2024. If successful, we intend to submit a Premarket Approval application, or PMA, to the FDA for Revita to improve glycemic control in T2D patients who are inadequately controlled on insulin. We are also planning to evaluate Revita in a pivotal study for weight maintenance in patients with obesity who have lost weight on GLP- 1RA therapy and wish to discontinue their GLP-1RA without weight regain. We expect to submit an IDE in the first half of 2024 for a potentially pivotal Remain-1 study. We believe our Revita clinical program will provide comprehensive clinical evidence to support the potential of Revita as a disease-modifying procedural therapy for glycemic control in T2D, weight maintenance in obesity and the prevention of T2D.

- ***Develop Rejuva Gene Therapy Platform to Enable Long-Term Remission of T2D and Obesity.*** To further our core strategy to treat and significantly reduce the burden of T2D and obesity, we are developing the Rejuva gene therapy platform. Our Rejuva gene therapy platform utilizes our novel investigational pancreatic delivery device to administer gene therapy candidates to target the dysfunctional pancreatic beta cells that are a root cause of insulin insufficiency in T2D. We believe that the precise mechanical and molecular confinement of targeted, low dose gene therapy medicines, can address many of the challenges that limit the use of gene therapy in the pancreas and the use of systemic GLP-1RA drugs today. We plan to nominate our first candidate for the Rejuva gene therapy platform for T2D in the first quarter of 2024, an AAV9-delivered, insulin promoter-driven, GLP-1 transgene. We plan to initiate IND-enabling studies or its equivalent in the first half of 2024, and we expect to submit an IND or IND-equivalent for our nominated candidate in the second half of 2024.

- ***Execute Targeted and Efficient Go-to-Market Strategy.*** If Revita is approved in the United States, we plan to execute an efficient "hub-and spoke" commercialization strategy to capitalize on the aligned incentives of key stakeholders and drive rapid adoption. Leveraging key learnings and insights from the Revita clinical program and from the ongoing commercial pilot in Germany, we plan to assemble a targeted sales force initially focusing on centers of excellence with metabolically focused endocrinologists and advanced therapeutic endoscopists. We plan to initially target gastrointestinal, or GI, endoscopists with a dedicated interest in bariatric and metabolic endoscopy, as we believe their familiarity with our product candidate may make them early adopters. We also intend to roll out a robust procedural training and support program for GI endoscopists, which we believe will ensure seamless integration into their workflow. We also plan to work with Centers for Medicare & Medicaid Services and private insurers to seek to establish coverage and reimbursement for procedures using our product candidate, a key strategy to support the commercial viability of our product candidate with providers.

- ***Broaden the Indication and Use of Revita.*** If approved, we plan to leverage our platform, technology, core capabilities and the data gathered from our prior clinical studies and the Revita clinical program to expand the indication and use of Revita within other T2D patient segments and other serious diseases, including CVD and weight maintenance, among others. Because of our

broadly accessible and disease-modifying approach, we intend to make Revita a backbone procedural therapy that can potentially significantly reduce the burden of T2D and obesity globally. We obtained a Conformitè Europëenne, or CE, Mark for Revita in Europe in 2016, reimbursement in Germany in 2022, and have built a direct sales force in Germany. We plan to expand a sales force in select major European markets upon successful completion of Revitalize-1. As we expand the adoption of Revita, we intend to evaluate potential partnerships and/or distributor relationships for its commercialization in other global geographies.

- ***Expand Application of Rejuva Platform to Other Metabolic Targets Beyond GLP-1.*** The Rejuva platform is modular and designed to enable local production of key metabolic hormones important for proper insulin production. Though our initial gene therapy candidate will include an AAV9 vector with a transgene that expresses GLP-1 hormone from the insulin promoter, our platform can enable production of a number of hormones, including, among others, gastric inhibitory polypeptide, or GIP, glucagon, peptide YY, or PYY, amylin. The versatility of the Rejuva platform has the potential to underpin a comprehensive, next-generation modality capable of targeting the root causes of various metabolic diseases.

Addressing Interlinked Metabolic Conditions: T2D and Obesity

Metabolic syndrome represents a spectrum of disorders that are primarily characterized by disturbances in the body's ability to properly metabolize glucose, lipids, and other essential molecules. One of the most prevalent and ubiquitous manifestations of metabolic syndrome is obesity, a condition where excessive body fat accumulates to a degree that has the potential to adversely impact health. The presence of excess body fat in obesity helps predispose at-risk individuals to other manifestations of metabolic disease, notably T2D, CVD, metabolic dysfunction-associated steatohepatitis, or MASH (formerly known as non-alcoholic steatohepatitis).

Whereas our ancestors lived in and adapted over centuries to ensure adequate energy supply in environments with limited nutrition, many people now live in a modern world with abundant access to calories and levels of nutrition for which we believe our bodies were never designed. The mismatch between our ancestral genetics and modern diets that are high in fat and sugar is a primary driver of metabolic diseases in the recent past. Emerging scientific consensus links these high fat and sugar diets to dysfunction in key metabolic organs that increase the risk of the development of obesity and T2D, including the gut and pancreas. There is a high degree of overlap between obesity and T2D. Obesity is a key factor in poor metabolic function in patients with T2D, and weight loss is seen as a critical therapeutic goal for T2D patients. According to the ADA Standards of Medical Care in Diabetes—2022, management of obesity is an important factor in the treatment of diabetes. According to the ADA, even a 5% weight loss can improve blood glucose levels and reduce need for medication. Therapeutic strategies that can both lower blood glucose and help with weight management could have longer-term benefits in prevention and remission of metabolic diseases.

Our Market Opportunity in Type 2 Diabetes

The International Diabetes Federation estimates that diabetes currently affects over 500 million adults worldwide, with nearly 1.3 billion people expected to be living with T2D globally by 2050. In the United States alone, 25 million people live with T2D on medical therapy and 5 million people live with advanced T2D on insulin therapy. Diabetes is expected to contribute more than $2 trillion in global annual expenditure by 2030, according to an independent study by Bommer et al.

Diabetes mellitus affects how the body turns food into energy and disrupts the ability of the body to regulate appropriate levels of glucose in the blood, leading to chronically elevated blood glucose levels and life-threatening complications. There are two types of diabetes mellitus: Type 1 diabetes, or T1D, is a consequence of immune destruction of beta cells in the pancreas, while T2D is a component of the metabolic disease spectrum.

T2D is a disorder of rising blood glucose that is caused by a multitude of factors, which lead to two parallel, progressive disease processes within the body: insulin resistance and insulin insufficiency:

- **Insulin resistance** is the body's inability to appropriately utilize an insulin signal from the pancreas to remove glucose from the bloodstream. The resistance to insulin causes excessive glucose production in the liver and a chronic strain on the insulin producing beta cells of the pancreas, which ultimately leads to insulin insufficiency. The systemic metabolic dysfunction associated with insulin resistance is not limited to the pancreas. Insulin resistance is also associated with systemic chronic inflammation and other negative consequences throughout the body independent of blood glucose that can lead to disease, including in the liver, cardiovascular system, and brain.

- **Insulin insufficiency** in T2D is the gradual failure of the beta cells to produce sufficient insulin to meet the body's needs. Early on, an individual's genetic makeup and the gradual impact of diets high in fat and sugar lead to insulin resistance, requiring the pancreas initially to chronically overproduce insulin in order to maintain control of blood glucose within a normal range. Over time, both the stress of insulin resistance and the exhaustion of excessive insulin production can cause the progressive failure of beta cells and a decline in insulin production. This combination of insulin resistance and consequent progressive pancreatic failure results in high blood glucose levels.

Metabolic dysfunction and its associated insulin resistance occurs relatively early in life. At first, metabolic dysfunction is not immediately associated with elevated blood glucose, but it does contribute to systemic chronic inflammation and the risk of weight gain, CVD, and stroke. Over time, insulin resistance causes a strain on the health of pancreatic beta cells, leading to decreased insulin production and insulin secretion, which leads to increases in blood glucose levels. When worsening pancreatic function leads to rising blood glucose above certain defined cutoff values for the population, the diagnosis of diabetes is made. A HbA1c test measures average blood glucose over a period of the past two to three months. Prediabetes is often diagnosed at HbA1c levels between 5.7% and 6.4% and diabetes is diagnosed when HbA1c reaches 6.5% or higher. Most society guidelines focus on controlling blood glucose to levels less than or equal to 7%, below which risk of diabetes related complications is low.

High cumulative life-long exposure to blood glucose in diabetes drives the development of diseases associated with small blood vessels (e.g., microvascular diseases in the eye, kidney, and peripheral nerves) and large blood vessels (e.g., macrovascular diseases in the heart and brain), potentially leading to life-threatening complications throughout the body, including early mortality. In addition, T2D is a major risk factor for cardiovascular events, such as heart attack and stroke. Ultimately, the mortality risk for patients with T2D is a nearly two-fold higher than in people without the disease, mainly due to cardiovascular complications of the disease. Large scale epidemiologic studies have shown that a 1% lowering of HbA1c lowers the overall risk of microvascular complications by approximately 35%. This demonstrates that the challenge is not only to substantially reduce HbA1c but also to sustain such a reduction throughout a patient's lifetime.

The Current Treatment Paradigm in T2D

The current standard of care for T2D is defined by life-long symptomatic management, focused on blood glucose control instead of disease modification. Despite the fact that T2D affects a significant fraction of the global population, there has not been a novel modality introduced to treat T2D in over a decade. While therapeutic advances in T1D have led to the approval of Tzield (teplizumab-mzwv) for the prevention of progression of T1D in 2022, and novel cell-based approaches to replacing beta cells in T1D, there has been an absence of therapeutic strategies tackling the root cause pathology of T2D. This lack of innovation is evidenced by the stubborn persistence of inadequate T2D control in patients. There are no approved disease-modifying therapies that target the organ-level root causes of T2D today.

The standard initial therapy in T2D is preventative care: dietary and lifestyle interventions aimed at altering the risk factors that contribute to progression of disease. While alterations to lifestyle are important, even intensive diets have not demonstrated sufficiently durable effectiveness to favorably impact long-term health in most patients due to lack of persistence and adherence. The Look AHEAD trial, conducted by the National Institute of Diabetes and Digestive and Kidney Diseases, was a randomized controlled trial comparing an intensive lifestyle program to standard diabetes education in overweight and obese T2D patients to track the development of CVD over time. The trial was stopped for futility after a median follow-up of 9.6 years. Eventually, even with diet and lifestyle interventions, blood glucose often worsens as ongoing insulin resistance causes progressive failure of pancreatic beta cells. At this point, symptomatic therapy to manage hyperglycemia is needed and most patients advance to medications and the chronic-care therapeutic model we see today.

Several classes of oral and injectable drugs exist for the management of hyperglycemia, and the sequential addition of medications on top of one another is directed by patient preference and payor pressure to minimize costs. Most patients with T2D will remain on an expanding list of medications to lower their blood glucose throughout the remainder of their lives. The sodium-glucose cotransporter-2 inhibitor, or SGLT2i (e.g., empagliflozin), and GLP-1RA (e.g., semaglutide), classes emerged over ten years ago as important new therapies in T2D with benefits beyond glucose lowering alone, including broader metabolic benefits on CVD and kidney disease risk. Guidelines call for patients to typically try SGLT2i and GLP-1RA if affordable before progressing to insulin therapy, helping to make the SGLT2i class an estimated $12 billion market and the GLP-1RA class an estimated $20 billion market in 2022. The significant market uptake of these drugs has come despite important shortcomings. SGLT2i and GLP-1RA medicines have a black box warning associated with significant safety risks, as well as tolerability challenges affecting medication adherence. For example, GLP-1RAs impact several physiological processes and result in a variety of side effects, including nausea, vomiting and diarrhea. Since the introduction of these two classes over 10 years ago, there have been no significant new targets or approaches in the T2D disease category.

The advent of the GLP-1RA class of medicines for T2D has led to an explosion in prescriptions of these drugs due to their impressive potency, cardiovascular benefits, and favorable weight loss profile. However, up to two-thirds of patients discontinue therapy with GLP-1RA drugs within 12 months, and discontinuation of therapy leads to a near total loss of metabolic benefit in most patients. This lack of persistence to therapy and subsequent loss of benefit in both blood glucose and weight suggests that these agents do not offer durable disease modification in the disease and help explain the increasing burden of T2D in society, even with the availability of these potent drugs.

Eventually, even when adherence is maintained, medications lose durable effectiveness in the face of ongoing diabetes progression, and most patients typically progress to insulin therapy if they do not achieve suitable control on two or three ADAs. Most patients start with long-acting insulin, a daily injectable therapy, which lowers blood glucose by suppressing liver glucose production and helping cells absorb glucose from the bloodstream.

Insulin is an effective drug at lowering blood glucose in controlled clinical trials but presents significant limitations as a sustainable therapy, as evidenced by unfavorable real-world outcomes with this class of medicines. Despite its potency, fewer than 40% of patients achieve good glycemic control even after long-acting insulin is added to their regimen because of a failure on the part of patients and physicians to titrate insulin dose appropriately and a lack of adherence or persistence on therapy in many patients.

Failure to achieve blood glucose control with ADAs and even long-acting insulin leads to the need for more intensive insulin therapy with multiple daily injections, including long-acting and short-acting insulin formulations, or even to insulin pump therapy. This rigorous routine is a massive burden on patients, leading to decreased adherence, and ultimately, resistance towards therapy.

We believe the current symptom-driven approach to T2D management is misdirected and unreasonable. It asks patients for dietary and lifestyle changes in the face of an altered physiologic set-point in the body,

rigorous and lifelong patient adherence and persistence to medicines, and unquestioning willingness to accede to increasingly complex therapies. This burdensome approach to care is often unmanageable and may leave many patients at risk, potentially resulting in chronic elevations in blood glucose that increase the likelihood of microvascular and macrovascular complications of T2D, and even death. There are no therapies that are approved today in T2D that offer disease modification, which we define as ongoing and durable preservation of pancreatic insulin production capacity even after therapy is discontinued.

We believe the same attention toward disease modification should be applied to T2D as is now already evident in T1D therapeutic development with goals of 1) diabetes prevention, defined as whether the treatment delays progression of diabetes, and 2) diabetes remission, defined as achieving a blood glucose level below the diabetic range for at least one year in the absence of active pharmacotherapy or ongoing procedures.

Our Market Opportunity in Obesity

Obesity is a disorder of altered metabolic setpoint and nutritional excess characterized by progressive weight gain and metabolic dysfunction that sits at the apex of a diverse range of negative health conditions, including T2D, CVD, and certain types of cancer. The International Diabetes Federation estimates that there are over 800 million people globally living with obesity today, with nearly 100 million suffering from obesity and pre-diabetes in the US alone. With new innovations achieving greater degrees of potency than earlier agents, the obesity market is poised for immense growth, with industry expectations of approximately $50 billion in drug sales by the end of the decade.

The human body has complex mechanisms to regulate weight, often compared to a thermostat that sets a “weight setpoint.” This setpoint is determined by a variety of factors, including genetics, environment, and behavior, and is regulated by a multitude of neural and hormonal signals originating in the intestine, pancreas, and adipose tissue, converging in the hypothalamus and other regions of the brain.

In individuals with obesity, the weight setpoint might be set or defended at a higher level, which is a key challenge in the management of this disease. When an individual with obesity loses weight (either by behavior changes or with medications), the body perceives the weight loss as a state of calorie deficit and risk of starvation. For this reason, the brain triggers a set of compensatory mechanisms, including increased hunger and decreased energy expenditure to try to restore the previous, but higher weight setpoint. The potential correction of the body’s altered metabolic setpoint can enable lasting benefits and translate to superior real-world outcomes.

The Current Treatment Paradigm in Obesity

Guidelines today focus on addressing excess weight in obesity, rather than developing strategies to lower or reset the body’s altered weight setpoint. Initial interventions focus on dietary changes and lifestyle modifications. The American College of Cardiology, or the ACC, and American Association of Clinical Endocrinologists, or the AACE, recommend patients with obesity should initially be prescribed aerobic exercise and resistance training, a reduced calorie diet, and behavioral intervention. The ACCE and ACC guidelines recommend that behavioral interventions be escalated for patients who do not achieve 2.5% weight loss within 1 month of beginning lifestyle modifications. If lifestyle modifications are not successful, treatment may move into therapeutic involvement and surgery. The AACE guidelines recommend that pharmacotherapy combined with lifestyle modifications be considered in individuals with a BMI of at least 27 kg/m^2.

The GLP-1RA class of medicines have proven clinical efficacy in obesity. Wegovy (semaglutide) and Saxenda (liraglutide) are GLP-1RAs currently FDA-approved for obesity, with additional candidates in various development stages. In August 2023, Novo Nordisk’s SELECT trial demonstrated that treatment with semaglutide as an adjunct to the standard of care reduced the risk of heart attack, stroke, or heart disease-related death by 20% in overweight or obese individuals with cardiovascular disease and no prior history of T2D. Current prescription trends suggest widespread off-label usage of GLP-1RAs in obesity, such as Ozempic (semaglutide) and Mounjaro (tirzepatide), demonstrating extensive patient interest in access to this class of drugs.

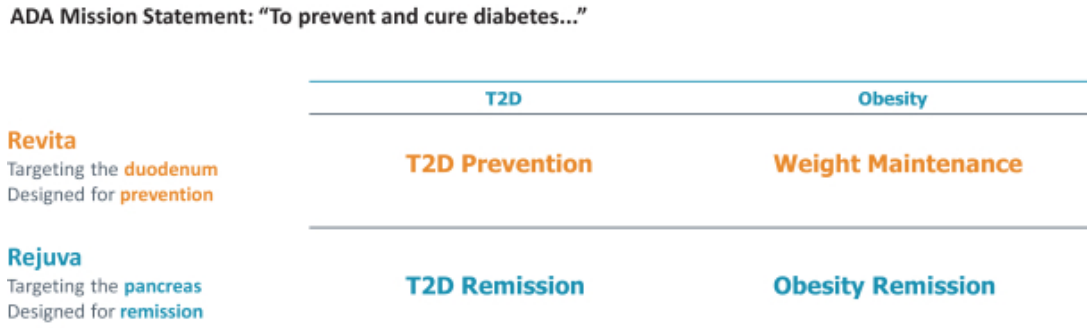
Similar to what we have seen in T2D, critical unmet need remains in obesity despite the potency of GLP-1RAs. As with glucose control, GLP-1RAs have a "rebound effect" in obesity, in which weight loss is not maintained in the long term once medication is stopped. A 2022 third-party study exploring weight regain and cardiometabolic effects after withdrawal of 2.4 mg of once-weekly semaglutide found that participants regained two-thirds of their prior weight loss one year after treatment discontinuation, with similar changes in cardiometabolic variables. In July 2023, results from Eli Lilly's SURMOUNT trials for tirzepatide demonstrated a slowing of the rebound effect, but only with significant lifestyle modifications. We believe there remains a critical unmet need in obesity for a therapeutic option that provides long-term benefit even after treatment discontinuation.

In an era of potent but non-durable weight loss therapies, we believe goals for anti-obesity medications should be 1) weight maintenance, defined as the prevention of weight regain over the course of at least one year, and 2) obesity remission, defined as achieving durable weight loss without the need for ongoing obesity-specific pharmacologic or surgical treatments. Therapeutic strategies that can achieve weight maintenance and obesity remission have the potential to provide a step change in outcomes for patients with obesity.

Our Approach

We design and develop novel, differentiated, disease-modifying therapies that precisely target and alter the function of the diseased organs responsible for T2D and obesity. Despite the development of highly potent medicines that can improve glucose control and weight, significant unmet needs remain in these diseases due to high rates of drug discontinuation over time, the loss of metabolic benefit upon drug discontinuation, and the inability of medicines to arrest the progressive nature of these conditions. Our vision is to develop transformative therapies that have the potential to prevent and eliminate metabolic diseases.

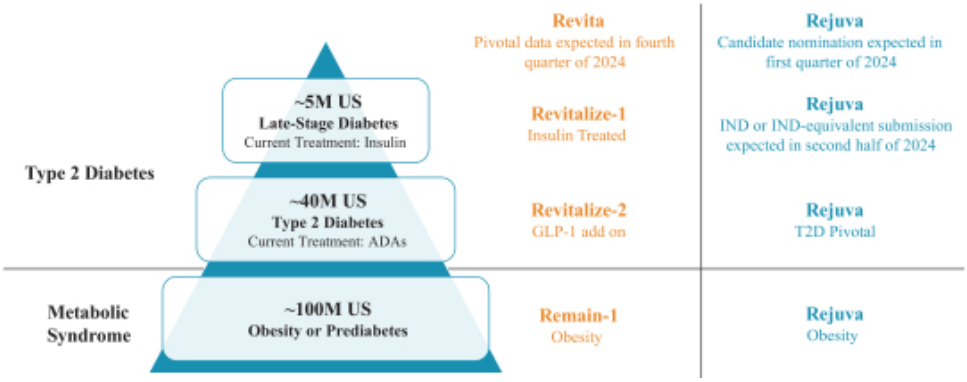
Our product candidates have the potential to offer a major advance in healthcare because they are designed as disease-modifying treatments that provide long-term metabolic benefits from a single administration, and are therefore potentially positioned to target the *prevention* and *remission* of disease, critically important categories in T2D and obesity treatment that cannot be addressed with current pharmacology. In order to be maximally impactful, these therapies must also be delivered at a scale that can match the incidence and prevalence of metabolic disease around the world. We believe our product candidates are not only unique in their potential for disease modification, but also in their design for broad accessibility for large populations. Accordingly, we believe our candidates have the capacity to revolutionize treatment of T2D and obesity and, at their fullest potential, significantly reduce the burden of metabolic disease globally.



Our Solutions

We believe there is a significant market opportunity for disease-modifying treatments that provide long-term metabolic benefits across the spectrum of T2D and obesity and we are developing a suite of product candidates that will target all phases of these diseases. Our Revita clinical development program is designed to evaluate Revita in multiple concurrent clinical studies across a range of patient populations from advanced T2D on insulin to obesity and prediabetes. We are also developing Rejuva to enable long-term remission of T2D and obesity by potentially restoring pancreatic metabolic function in patients with these diseases.

Significant Market Opportunity for One-Time Treatments Targeting Root Causes of Obesity and Type 2 Diabetes



Overview of Revita

Revita is an outpatient procedural therapy designed to durably modify duodenal dysfunction, a major pathologic consequence of a high fat high sugar diet, which can initiate T2D and obesity in humans. The duodenum is the first segment of the small intestine and the first site of nutrient absorption within the body. The duodenal mucosa regulates the human metabolic response to food intake, and chronic exposure to modern diets high in fat and sugar drive a functional maladaptation of stem cells in the duodenum and lead to dysfunctional hyperplasia of the duodenal mucosa. These diet-induced changes to the structure and function of the duodenal mucosa disrupt physiologic nutrient sensing and signaling mechanisms from the gut to the brain, with resulting alterations to systemic metabolic activity that affect glucose control and satiety through multiple downstream organ systems. Emerging scientific consensus has identified this dysfunction in the gut as a root cause of obesity and metabolic dysfunction and therefore propose targeting gut dysfunction to address downstream metabolic diseases. There are no therapies approved today that target the duodenal mucosa for regeneration and renewal.

The Revita system is designed to enable durable and repeatable metabolic improvement by targeting duodenal dysfunction with an outpatient, endoscopic procedural therapy. Revita uses heat energy to ablate the dysfunctional duodenal mucosa, including the duodenal stem cells residing at the base of the mucosa, to enable regeneration and renewal of the duodenum and restore normal metabolic signaling from the gut. The Revita procedure provides thermal protection to the duodenum before ablating the superficial mucosa by (1) isolating the mucosa from the deeper muscle layer of the duodenum and then (2) hydrothermally ablating the superficial layer of the duodenal lining with a proprietary balloon catheter and control console. The procedure takes less than 45 minutes and can be conducted in an outpatient setting in a manner that allows immediate return to daily life for patients. In the days following the ablation procedure, the duodenal mucosa regenerates, which we believe leaves the duodenal lining revitalized and better able to properly coordinate the gut's metabolic signaling mechanisms.

Revita is designed to treat patients ranging from those who have advanced T2D who have exhausted medical therapies and require insulin therapy to those with prediabetes and obesity. For people with T2D treated with medicines and insulin, Revita is intended to improve glucose control and prevent or delay further progression of their disease. For individuals with prediabetes and obesity, Revita is designed to address upstream metabolic dysfunction that puts them at risk for the progression of T2D and obesity.

Potential Benefits of Revita

We believe that Revita's unique individual features combine to provide a significantly differentiated solution to T2D and obesity, offering the following potential benefits:

- ***Durable and Repeatable Benefit.*** Revita is designed to improve metabolic health, blood glucose levels, and weight in patients with inadequately controlled T2D. Based on a long-term follow-up study of the per protocol, or PP, population in our Revita-1 study, we observed that Revita, in combination with at least one ongoing oral anti-diabetic agent, or OAD, and lifestyle counseling, had a statistically significant mean HbA1c reduction of 1.0% (n=27) and a statistically significant raw change in weight of -3.1 kg (n=25) compared to sham patients at 24 months. A pooled analysis of data collected on secondary endpoints assessing weight in all of our controlled clinical studies across the United States and Europe demonstrated a 3.4% (n=100) mean reduction in total body weight loss at four weeks in patients with T2D on multiple ADAs after undergoing a single Revita DMR Procedure and showed a sustained mean body weight loss of 4.0% (n=94) at 48 weeks. We believe this is an important and differentiated therapeutic profile in obesity management. In addition, we believe our Revita system has the potential to enable repeat Revita procedures over time.

- ***Tolerability.*** In clinical studies to date, Revita has been observed to be generally well tolerated, with most patients resuming normal daily activities one day after the procedure and none requiring prescription pain medications. Our proprietary Revita technology is designed to provide thermal protection before ablation, enabling isolation of the mucosa from deeper tissue structures and sparing pain fibers in the muscle while reducing risk of tissue injury.

- ***Broad Implementation.*** Revita is a modular system that can potentially be incorporated into the endoscopist workflow by leveraging familiar skillsets of advanced endoscopists. Revita is intended to fit into most endoscopy suites and typically requires fewer than four cases for the endoscopist to acquire proficiency. It is designed to be an outpatient procedure that can be performed by a trained therapeutic endoscopist in less than an hour. Today, over 20,000,000 endoscopies are performed each year in the United States, including over 600,000 advanced endoscopic procedures, by nearly 10,000 gastroenterologists. The Revita DMR Procedure is designed to be a simple add-on procedure to the 4.7 million endoscopies already performed on T2D patients annually.

- ***Real World Outcomes.*** Because it is a procedural therapy, Revita does not rely on perfect patient adherence or persistence to chronic therapy for its anticipated clinical effects. Unlike diet and lifestyle interventions or pharmacologic management, the benefits of Revita are intended to be conferred at the time of the procedure and not reliant upon ongoing therapeutic maintenance. This allows a shift in patient focus from escalating chronic disease management burden to ongoing health maintenance after the procedure.

- ***Patient Friendly.*** Revita is designed to offer a straight-forward, outpatient experience requiring less than a half-day visit, and allowing patients to typically return to their normal daily lives the very next day. Furthermore, the Revita DMR Procedure has thus far been observed to be compatible with other current interventions for T2D and obesity in broad use, including diet and lifestyle, as well as existing and emerging pharmacologic therapies.

Overview of Rejuva

Rejuva is a novel, locally administered, AAV-delivered PGTx platform designed to enable long-term remission of T2D and obesity by durably altering metabolic hormone function in the pancreatic islet cells of patients with T2D and obesity. Pancreatic islets are tiny clusters of cells distributed throughout the pancreas that play a crucial role in endocrine function and glucose metabolism. There are several cell types within the pancreatic islet, including alpha cells responsible for glucagon production and beta cells responsible for insulin production. Metabolic dysfunction in obesity and prediabetes can lead to progressive beta cell dysfunction and eventual failure, loss of insulin production and secretion, and the development of T2D. There are no therapies approved today that target the pancreatic islet in T2D for repair or replacement.

Our Rejuva gene therapy platform utilizes our novel investigational pancreatic delivery device to administer gene therapy candidates to target the dysfunctional pancreatic beta cells that are a root cause of insulin insufficiency in T2D. Rejuva is a modular, physiologic gene therapy platform with three key elements designed to enable successful pancreatic gene therapy: (1) a proprietary delivery catheter designed to enable local, low dose therapeutic delivery directly to the pancreas via endoscopic access, (2) vectors with tropism for the pancreatic islet to enable successful transduction and gene delivery with limited biodistribution via this route of administration, and (3) transgenes with tissue-restricted promoters and metabolically active peptides that can durably impact glucose and weight control. Rejuva is designed to directly administer a gene therapy into the body and tail of the pancreas via mechanical confinement of virus with local administration and molecular confinement of transgene expression with tissue-specific promoters. These hormones are intended to rejuvenate beta cell health and restore the body's natural ability to produce insulin. The first gene therapy candidate for Rejuva will be a locally administered AAV9 viral vector that expresses a full-length GLP-1 hormone from the insulin promoter.

Potential Benefits of Rejuva

We believe that Rejuva's individual features combine to provide a significantly differentiated solution to T2D and obesity, offering the following potential benefits:

- ***Novel Approach to a Highly Validated Target.*** Our Rejuva platform candidates are being developed as an investigational pancreatic delivery device and local, AAV-delivered PGTx to durably improve islet health in the pancreas. Our first Rejuva PGTx candidate is intended to augment intra-islet GLP-1 receptor activation, leveraging well established biology on GLP-1 signaling and potentially leading to improved beta cell health and glucose control in patients with T2D and obesity.

- ***Precise Local Delivery*.** Our Rejuva gene therapy platform is designed to provide precise local delivery of gene therapy to the pancreas in a single endoscopic procedure. Our Rejuva platform leverages standard-of-care techniques for pancreatic tissue access and possesses key proprietary device elements and procedure steps, thereby reducing procedural risk. We believe our Rejuva gene therapy candidates will benefit from localized administration, potentially avoiding the risk of high dose systemic administration that has been observed with other gene therapy candidates or GLP-1 receptor analogs.

- ***Preclinical Pharmacology and Toxicology Profile.*** In preclinical studies, we observed that a single administration of a GLP-1 PGTx candidate achieved durable and statistically significant improvements in blood glucose control and weight loss in *db/db* mice. In a preclinical proof-of-concept head-to-head study in a *db/db* model, after a single administration of a GLP-1 PGTx candidate, we observed (compared to chronic semaglutide at 10 nmol/kg daily):

    - statistically significant average reduction of fasting plasma glucose, or FPG, levels of 50.9% ($p < 0.0001$) at eight weeks;

- non-statistically significant decrease in fasting insulin of 48.6% (p=0.374) during a glucose tolerance test at eight weeks; and
- statistically significant decrease in total body weight of 19.6% (p<0.0001) at four weeks.

Additionally, no adverse events related to the pancreas, liver or other tissues were observed in our rodent or large animal studies.

- ***Building Upon Clinical and Real-World Experience with Revita.*** The gene therapy candidates from our Rejuva platform benefit from the extensive clinical and real-world experience that we have accumulated through our Revita program. Rejuva PGTx candidates can be delivered by the same treating physicians and in the same setting as the DMR procedure, utilizing the same Revita console and leveraging the same distribution network. Moreover, we believe the metabolic benefits of Rejuva PGTx candidates have the potential to be complementary to, and perhaps synergistic with, the Revita DMR Procedure.

- ***Rigorous Development Plan.*** We anticipate nominating our first GLP-1 PGTx candidate for T2D in the first quarter of 2024 and commencing IND-enabling studies or its equivalent in the first half of 2024. In addition, we expect to submit an IND or IND-equivalent for our nominated candidate in the second half of 2024.

- ***Interchangeable Platform for Metabolic Therapy***. The Rejuva platform enables selection of multiple metabolically active peptide hormones (GLP-1, GIP, PYY, amylin, glucagon, etc.), either individually or combinatorially, with the same local delivery and plasmid construct for differential therapeutic profiles over time.

By employing Revita and Rejuva to target the prevention and remission of T2D and obesity, we believe it is possible to provide a step change in outcomes for patients above and beyond the current chronic management strategies that exist today. If we are able to obtain approval for these product candidates in the United States, we believe these therapies will enable us to chart a course towards significantly reducing the burden of T2D and obesity globally.

Our Targets: the Gut and Pancreas

"All disease begins in the gut."

- Hippocrates

The Role of the Gut in the Central Regulation of Metabolism

In recent years, there has been an increase in research tying gut health to diseases throughout the body – ranging from obesity to T2D to dementia. One aspect of this research is the emerging consensus that an important root cause of metabolic disease is the impact of modern diets on the gut, one of our body's critical metabolic control systems. Advances in our understanding of integrative organ physiology has begun to reveal the complex role that the gut plays in interfacing with the food we eat and coordinating the body's response to that food. The gut possesses the largest nervous system outside the brain, the largest hormone producing endocrine system, a huge and complex microbiome, and the largest immune system in the body. Different segments of the intestine have different endocrine producing cells and different neurohormonal effects on the brain's response to the meal. These mechanisms work together to provide a defensive barrier and an early warning detection system to help the body prepare for and deal with the food we ingest.

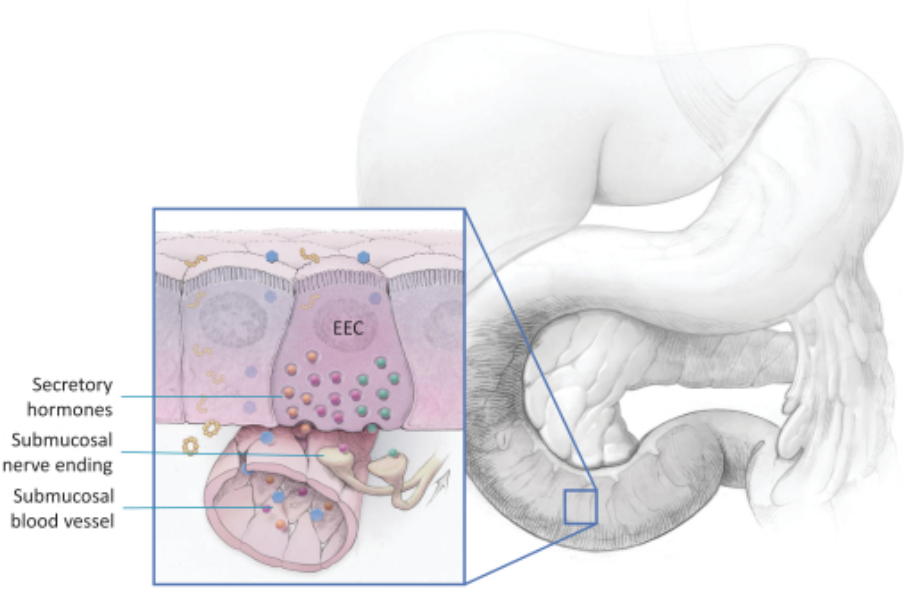
Diets have changed a great deal over the past several decades, with a shift away from relatively calorie poor, fiber rich, natural foods, to the inexpensive and abundant supply of ultra-processed foods that are very high in simple fats and sugars. Our founders, along with several scientific groups around the world, have begun to

detail the specific changes that these modern diets cause on the gut and the impact these changes exert on the body and brain. While the gut has long been recognized as an acute nutrient sensor with signaling mechanisms to the other metabolic organs of the body, its role in regulating the body's metabolic status over longer periods of time has been underappreciated. Recent advances have demonstrated that the chronic exposure of the intestine to high levels of fats and sugars lead to structural and functional changes of the lining of the proximal gut that may signal a metabolic shift to the brain and body. These insights provide a window into the adaptive role of the intestinal mucosa in helping to define metabolic parameters within the body—informing the metabolic regulation of insulin resistance versus sensitivity, hunger versus satiety, energy utilization versus energy storage, and protection from hypoglycemia versus protection from hyperglycemia. Moreover, these diet-induced changes are geographically confined to the upper small intestine, particularly the duodenum, an area of the body that is directly accessible via routine upper endoscopy via the mouth. This new research provides, for the first time, an accessible potential target of pathology within the gut that sits at the apex of the complex metabolic changes throughout the body underlying metabolic diseases, including T2D and obesity.

Structural and functional changes in the duodenal lining occur in response to high fat, high sugar diets, and can lead to T2D and obesity

After food passes through the stomach, it moves to the duodenum, which is approximately the first 25 cm to 30 cm of the small intestine, where nutrient absorption first begins in the body. The lining of the duodenum, known as the mucosa, is composed of several cell types, including absorptive cells called enterocytes and hormone-producing enteroendocrine cells, or EECs (comprising approximately 1% of the cells of the mucosa). EECs sense the presence or absence of nutrients in the duodenum and send chemical signals via the bloodstream and direct connections to nerve cells in the gut to the brain and body to help mediate glucose control, as depicted below.

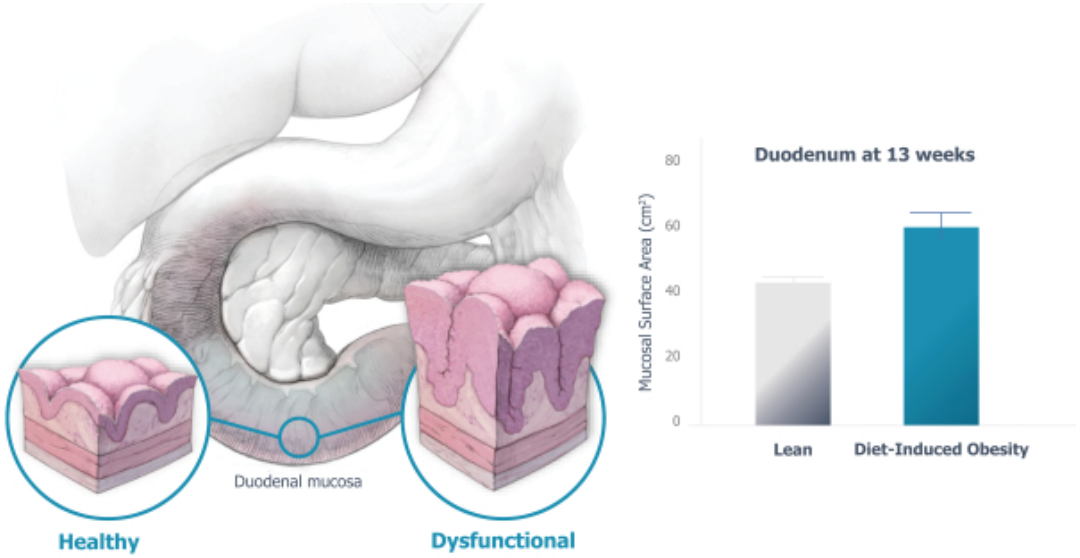
EECs in Duodenal Lining Send Neurohormonal Signals to Brain and Body



Studies analyzing the small intestine in diabetic patients and animal models have identified functional maladaption of the intestinal mucosa after chronic dietary exposure to high concentrations of fat and sugar similar to the composition of modern diets. Geltrude Mingrone (a consultant to Fractyl and a member of our

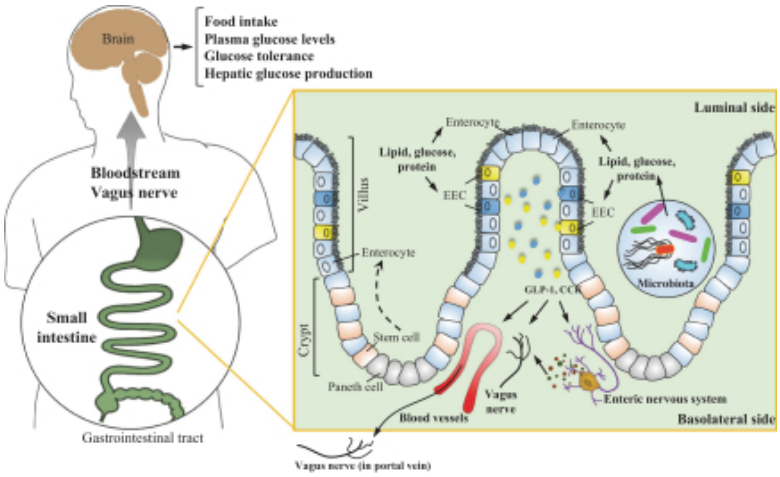
Erase Task Force), et al. showed in 2010 that a high fat diet in rats can cause overgrowth of the duodenal mucosa. Working with colleagues at King's College London, we extended these observations to show that mucosal overgrowth may occur in the duodenum and proximal jejunum but does not extend to further segments of the intestine, such as the ileum. Further, Aliluev et al. observed that high fat, high sugar diets alter intestinal stem cell homeostasis leading to an overgrowth (i.e., hyperplasia) of the duodenal mucosa. The figure on the left demonstrates that chronic exposure to these diets may lead to the development of a dysfunctional duodenal lining. The image below on the right depicts the effect of a high fat diet on the growth of the mucosa in a rodent chronically fed a high fat diet, which led to a 50% increase in mucosal surface area over time, relative to a normal diet-fed rodent.

High Fat and Sugar Diets May Cause Overgrowth and Dysfunction of Duodenal Mucosa



This finding of a nutrient-induced stem cell division process that causes structural and functional changes of the duodenal mucosa has now been replicated by multiple independent groups in the United States and Europe, and across organism species and disease models. Michael Theodorakis et al. have demonstrated similar observations in diabetic humans, showing through duodenal biopsies that the mucosa in the duodenum of patients with T2D becomes thickened and exhibits changes to the hormone-producing cell populations in the duodenum.

Hyperplasia and dysfunction of the duodenum is associated with more mucosal cells, a greater surface area for nutrient absorption, and in turn more EECs for neurohormonal signaling, altering the body's response to the metabolic signal from this region of the gut. The greater surface area of the duodenal lining accelerates nutrient absorption and nutrient sensing and signaling from EECs in the proximal intestine. Multiple downstream mechanisms have been implicated in the role of this gut dysfunction in causing metabolic dysfunction. According to Duca et al., EECs in the duodenum respond to ingested nutrients by secreting hormones, including GLP-1 and cholecystokinin, which enter the circulation and trigger local nervous system activation on the basolateral surface of those cells. In this way, the brain can receive neurohormonal signals from the gut and uses this integrated information to regulate blood glucose levels and weight by impacting glucose metabolism and energy metabolism throughout the body. In a healthy state, intraduodenal lipids triggers satiety and suppression of blood glucose levels through these mechanisms, but chronic high fat diets impair this gut-brain feedback in lipid sensing and signaling, leading to metabolic dysfunction (as depicted in the image below).



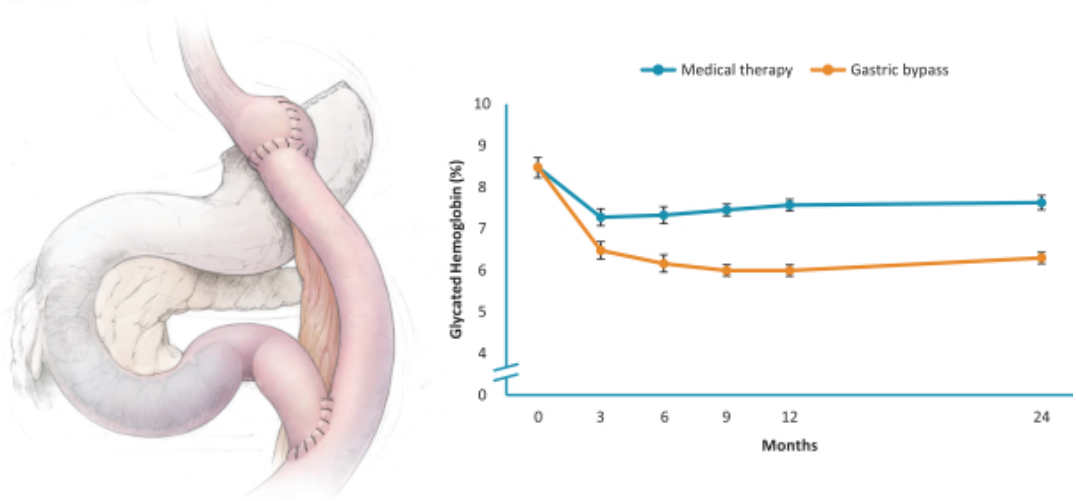
Source: Duca et al., *Nat Commun*. 2021; 12: 903; http://creativecommons.org/licenses/by/4.0/

We believe that, taken together, this recent preclinical and clinical evidence demonstrates that abnormal neurohormonal signaling from the duodenum to the rest of the body is an important contributor to metabolic dysfunction, which can increase the risk of T2D and obesity. This insight extends the conventional wisdom that excess weight and physical inactivity are the sole drivers of T2D by highlighting the important role of the duodenum in metabolic control.

Avoiding Nutrient Contact with the Duodenum can Reduce Insulin Resistance in T2D

Not only is there evidence that changes in the duodenum and duodenal nutrient sensing may directly and/or indirectly cause insulin resistance, but independent studies in animals and humans show that preventing or disrupting nutrient contact with the duodenal mucosa can ameliorate insulin resistance and its downstream clinical consequences. Metabolic surgeries that bypass the stomach and duodenum, originally intended for weight loss, have emerged as a treatment approach in T2D with superior metabolic benefits compared to the current standard of care. There is abundant and compelling surgical experience (performed in hundreds of thousands of patients with millions of patient-years of follow-up) showing significant and durable metabolic improvements that come from bypassing the duodenum in people with T2D and obesity (as depicted in the image below). These surgeries have now firmly positioned the duodenum as a validated novel target for T2D and an organ whose function can be safely and effectively altered for metabolic improvement.

Gastric Bypass Surgery Leads to Significant and Sustained Improvement in Blood Glucose

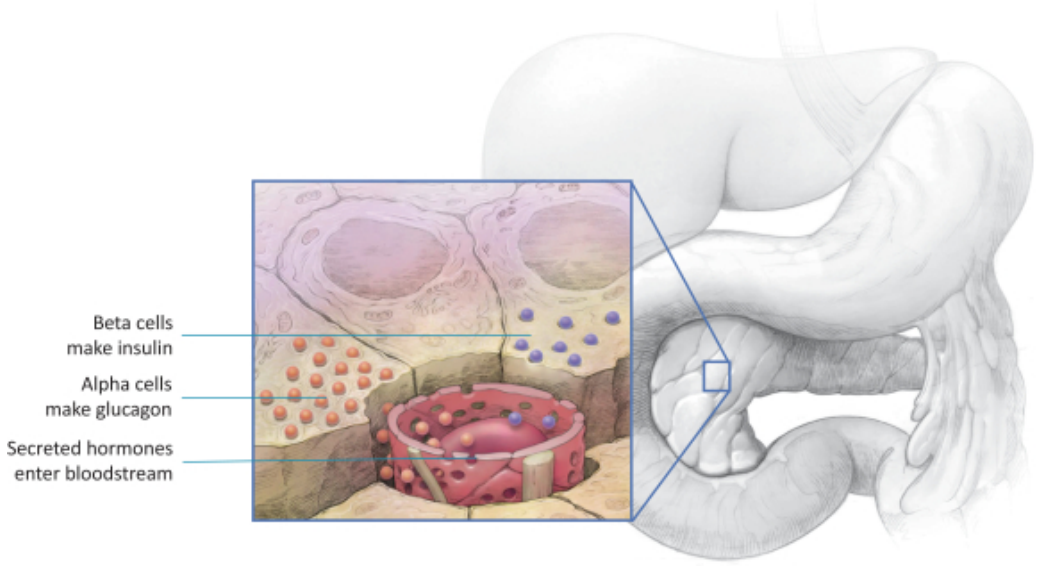


Source: Mingrone et al., *N Engl J Med* 2012; 366:1577-1585

The Role of the Pancreas in Metabolic Control

The pancreas is a hormone producing organ in the retroperitoneum surrounded by the duodenum, immediately below the stomach. It has functions related to the secretion of digestive enzymes into the duodenum to help process food for absorption (exocrine pancreas) and functions related to the secretion of hormones into the bloodstream to help maintain glucose control (including insulin and glucagon) from pancreatic islets distributed throughout the pancreas. The figure below shows cells within a pancreatic islet: alpha cells secrete glucagon into the bloodstream and beta cells secrete insulin. Glucagon and insulin are counter-regulatory hormones that act in opposite directions to raise or lower blood glucose levels, respectively.

Pancreatic Islet Cells Produce Glucagon and Insulin



Most people can compensate for their bodies' metabolic dysfunction by increasing the amount of insulin they produce in the beta cells of their pancreas to keep blood glucose levels within normal ranges. Patients who go on to develop T2D eventually experience a gradual loss of beta cell function, leading to reduced insulin production and insulin secretion over time. There are two principal causes for the loss of beta cell function in most people with T2D: (1) exhaustion of beta cell function in the face of longstanding metabolic dysfunction and chronically elevated blood glucose levels, and (2) damage to beta cells from the toxicity of circulating lipids (i.e., lipotoxicity) that are directly tied to metabolic dysfunction. By the time the diagnosis of diabetes is made, people have lost over 80% of their beta cell function, which we believe makes it essential that the physician intervene aggressively with therapies known to prevent or correct known pathophysiological disturbances in beta cell function.

Increasing GLP-1 Levels in the Pancreas can Improve Islet Metabolic Function

GLP-1 is a potent hormone that is produced in the distal intestine and secreted into the circulation in response to nutrient intake and also produced in the pancreatic islets by alpha cells, acting within the islet to regulate metabolic control. The role of GLP-1 hormone within the pancreatic islet in beta cell function and insulin production is one of the best understood hormonal mechanisms in all of medicine. The GLP-1 receptor is expressed in beta cells of the pancreas, where receptor activation has multiple acute and chronic actions on beta cell function: acutely, GLP-1 immediately stimulates insulin secretion in response to elevations in blood glucose; chronically, GLP-1 stimulates insulin gene transcription and islet cell survival. The GLP-1 receptor is also expressed in alpha cells of the pancreas, where receptor activation regulates glucagon expression to help control blood glucose levels. Studies have shown that there is impaired GLP-1 signaling in the pancreatic islet in T2D, and increased GLP-1 signaling can compensate for impaired insulin secretion, preserve beta cell function and survival, and therefore improve glucose homeostasis in T2D. The beneficial effects of GLP-1 on pancreatic islet function have been further shown by the effects of the GLP-1RA class of medicines, which have demonstrated meaningful improvements in insulin production and pancreatic responsiveness to blood glucose.

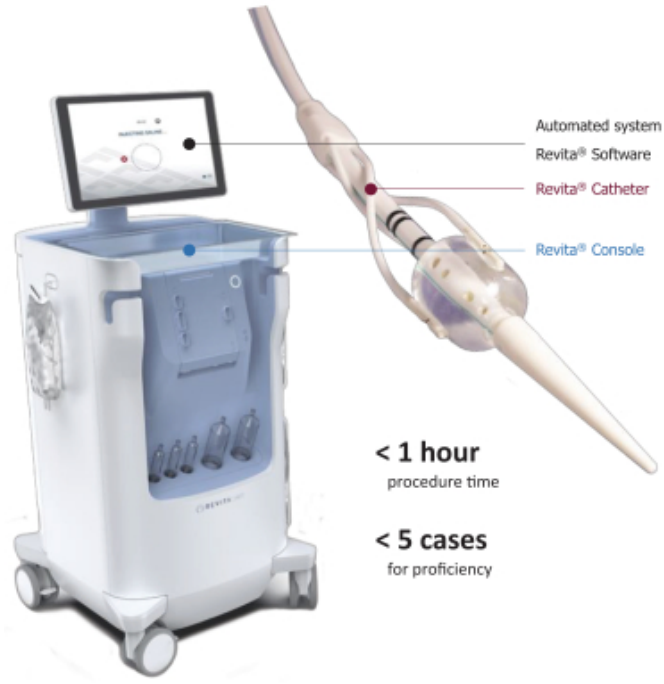
Revita and Rejuva are designed to treat T2D and obesity by directly targeting the gut and pancreas, respectively, to address root cause pathologies in these organs that drive metabolic disease. By leveraging our expertise in developing novel, differentiated, disease-modifying therapies, and our insights into the biology of the gut and pancreas, we believe our therapeutic approaches, if approved, have the ability to alter the paradigm for treating T2D and obesity by remediating the most fundamental causes of the disease.

Revita Product Description

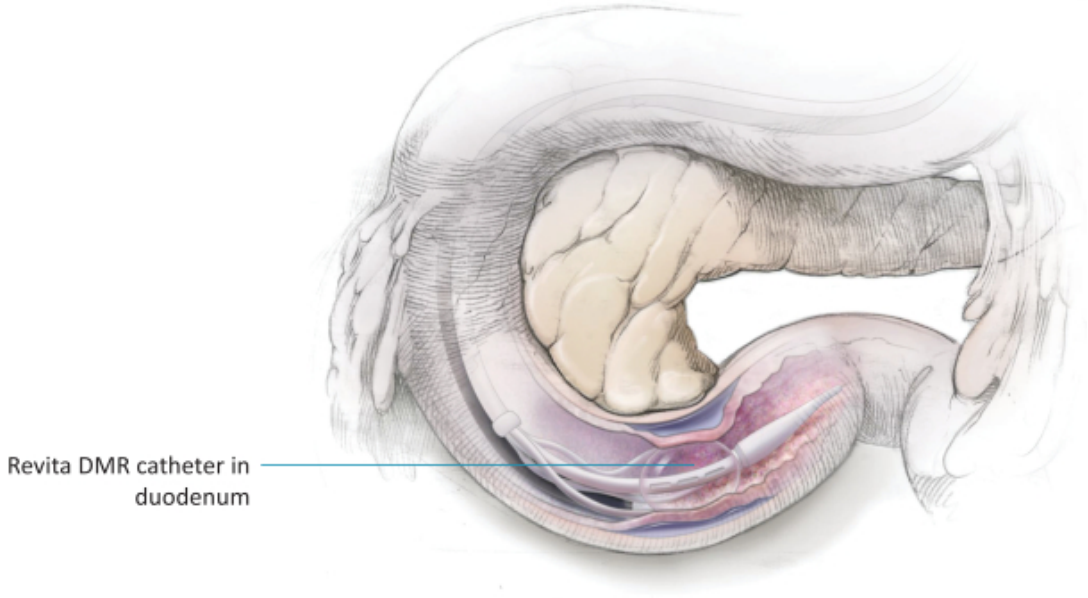
Device Overview

Revita is comprised of (i) the Revita console that houses our proprietary technology and software, and (ii) a single-use Revita DMR catheter. The console's touchscreen-based graphical user interface is designed to provide ease-of-use and clear guidance on the performance and progress of the procedure for the physician. The console is designed to control the temperature of the ablative and cooling fluid, vacuum suction, facilitate the delivery of saline for the submucosal lift and the pressure and flow rate of water during the ablation cycle. In addition, the console houses sensors that are designed to monitor temperature, pressure and procedure status. We believe the console enables a targeted ablation process by enabling a proprietary safety mechanism that reduces penetration of heat to deeper tissues during the hydrothermal ablation procedure, and potentially reduces the risk of physician error by automating certain steps of the treatment process by guiding the physician step-by-step through the procedure. The image below depicts a prototype rendering of the modular Revita console with the proprietary Revita catheter. The catheter and graphical user interface are currently being used in our Revitalize-1 clinical study but the Revita console hardware below is not. We plan to seek approval from the FDA of a supplemental PMA for this console design modification. The Revita DMR catheter is comprised of three outward-facing ports on the exterior of our novel ablation balloon with a control handle on the proximal end. Each port on the catheter has an opening whose size and shape is designed to enable suction to selectively pull mucosal and submucosal tissue into the port, while preventing the deeper muscularis tissue from being pulled in. In addition, the catheter is thin, flexible and narrow, and is designed to be deliverable and trackable across the stomach into the small intestine over a standard endoscopic guidewire.

Modular Revita Console Powered by an Intuitive Touchscreen User Interface



Revita® is under investigational use only in the United States and has a CE Mark in Europe



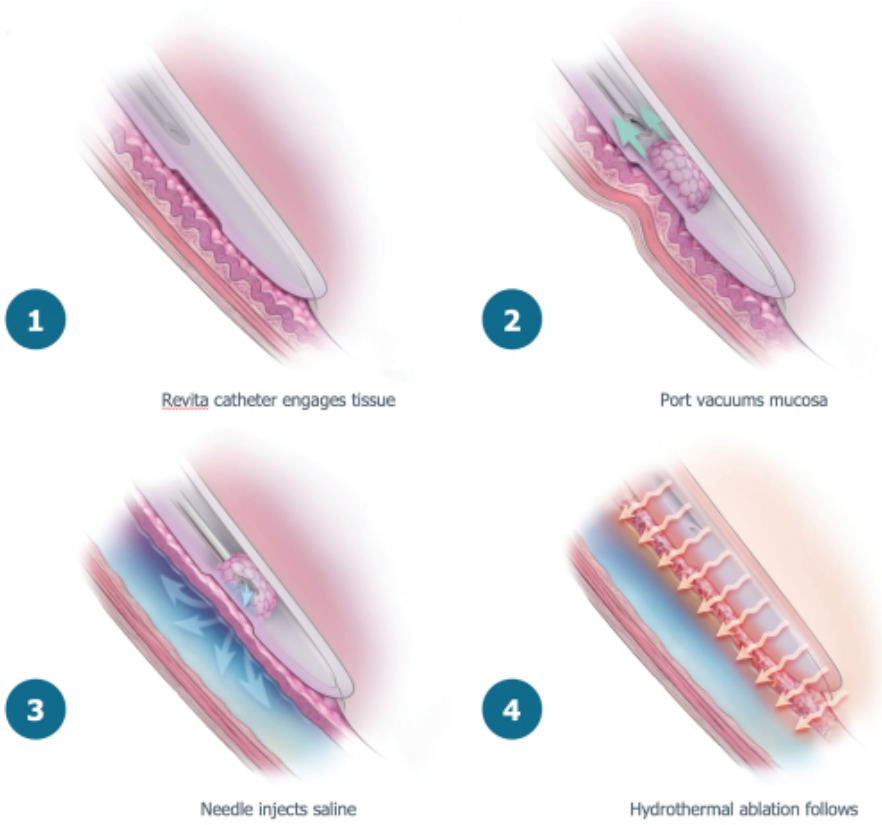
Procedure Overview

The Revita DMR Procedure is designed to be a minimally invasive, outpatient, endoscopic procedural therapy using a proprietary balloon catheter that is uniquely designed for the duodenal mucosa in a procedure that typically lasts less than an hour. Revita is designed to target the mucosal surface for ablation and induce intestinal stem cell-mediated regeneration. The procedure is performed by a trained endoscopist while the patient is under conscious sedation or general anesthesia. With the help of the Revita console, certain steps of the procedure are designed to be highly automated, which we believe minimizes the risk of physician error.

The procedure involves inserting the distal end of the single-use Revita catheter through the mouth over a guidewire past the stomach and into the duodenum, using fluoroscopy to assist placement. The catheter is then positioned distal to the ampulla of Vater (i.e., the hepatopancreatic duct where bile salts and pancreatic enzymes enter the GI tract) under direct endoscopic visualization. The procedure then involves a repeated sequence of thermal safety and hydrothermal ablation steps.

Thermal Safety. Our proprietary thermal safety procedural step involves an automated, circumferential instillation of saline into the submucosal space of the duodenum. This step is initiated through the user interface of the console and enables the lifting of the mucosa away from the underlying muscle layer. The catheter balloon is expanded with fluid to allow the catheter to engage with the mucosa and a vacuum connected to the console draws the mucosa into each of three injection ports on the catheter. The user interface of the console is then used to initiate saline delivery to the submucosal space via needles within the vacuum ports. This procedure step is designed to create a thermal barrier between the mucosa and the underlying muscular layer in order reduce the risk of discomfort or unintended thermal injury, and to enable repeated procedures by ensuring that the mucosa can be safely lifted before performing thermal ablation.

Designed to Create a Protective Thermal Barrier for a Well Tolerated Procedure



Hydrothermal Ablation. After the thermal safety step is completed in a region of the duodenum, hydrothermal ablation is initiated through the console user interface. The ablation cycle involves the introduction and recirculation of water within the balloon. We believe this sequence of steps provides a controlled, uniform, "thin layer" ablation of the mucosa and superficial submucosa and potentially further reduces the risk of injuring deeper tissues. The first step fills the balloon with cold water to cool the duodenal tissue below body temperature prior to ablation. The second step is intended to deliver a precise dose of hydrothermal energy to the tissue to create a controlled coagulative ablation. The third step is intended to remove any residual heat from the tissue and to prevent unintended conduction of heat within the tissue.

The thermal safety and hydrothermal ablation steps are continued sequentially along the length of the duodenum, extending from just beyond the ampulla of Vater and proceeding distally until the full length of the duodenum is treated. The sequential thermal safety and hydrothermal ablation steps are designed to ensure the spatial and temporal alignment of the ablation within the previously lifted region before the thermal protective saline barrier dissipates. We have designed Revita's hydrothermal ablation to be coagulating, where the proteins in the tissue are denatured but the tissue remains in place. In addition, our ablation procedure is designed to prevent bleeding and to allow overlapping ablations without excessive depth of ablation.

Upon completion of the procedure, the guidewire, catheter and endoscope are removed, leaving no long-term implant in the GI tract. The patient is typically discharged on the same day and is prescribed a

graduated post-procedure diet, starting with liquids and progressing to pureed foods and soft foods. Similar to other routine upper-GI endoscopic procedures, if Revita is approved, we anticipate that patients will resume normal activities the day after their procedure, which is supported by our observations to date.

Clinical Data Overview: Revita

We have evaluated the Revita DMR Procedure in over 300 patients in multiple clinical studies across numerous sites in South America, Europe and the United States. To date, we have observed the Revita DMR Procedure, when added to certain ADAs and lifestyle counseling, to be generally well tolerated and demonstrated durable blood glucose lowering and weight stabilization in patients for two years post-procedure. We are also currently evaluating the Revita DMR Procedure in our Revitalize-1 pivotal clinical study in patients with inadequately controlled T2D despite being on up to three ADAs and 20 to 100 units of insulin daily. Based on the data observed in our previously conducted clinical studies, we believe that the Revita DMR Procedure has the potential to procedurally treat the organ-level root cause of metabolic diseases, such as T2D and obesity.

The table below summarizes our ongoing, planned and completed clinical studies for the Revita DMR Procedure.

Study and Status	Study Design	Primary Objectives	Milestones
Germany Real-World Registry. Study in patients with inadequately controlled T2D on at least one ADA Commenced in April 2023	• Prospective, post-market, clinical five-year follow-up of patients who have received the Revita DMR Procedure in a real-world setting	• To assess the safety and clinical effectiveness, quality of life and patient reported outcomes, and healthcare utilization expenditure of the Revita DMR Procedure	• Enroll patients and report data on an ongoing basis
Revitalize-1. Pivotal clinical study in patients with inadequately controlled T2D despite being on up to three ADAs and 20 to 100 units of insulin daily Commenced in March 2021	• Stage 1: open-label, single-arm training stage • Stage 2: Randomized, double-blind, crossover, sham-controlled, multi-center • ~10-14 cm DMR • Two arms: DMR and sham • Stage 1: up to 140 patients • Stage 2: up to 420 patients	• To demonstrate superiority of the Revita DMR Procedure to sham in improving glycemic control at 24 weeks	• Topline data expected in the fourth quarter of 2024
Remain-1. Clinical study in patients who have lost weight on GLP-1RA therapy and wish to discontinue their GLP-1RA without weight regain	• Randomized (2:1), double-blind, sham-controlled, multi-center • Two arms: DMR and sham • 300 patients	• To demonstrate superiority of the Revita DMR Procedure to sham in weight maintenance after discontinuation of tirzepatide or semaglutide at 24 weeks	• We expect to submit an IDE and comparable documents to the FDA and comparable foreign regulatory authorities or notified bodies in the first half of 2024 for a potentially pivotal Remain-1 study
Revitalize-2. Pivotal clinical study in patients with T2D who are inadequately controlled on two or three ADAs for whom insulin would be the next step in therapy Planned	• Stage 1: open-label, single-arm training stage • Stage 2: Randomized, double-blind, sham- controlled, multi-center • Two arms: DMR and sham • Stage 1: up to 110 patients • Stage 2: up to 400 patients	• To demonstrate superiority of the Revita DMR Procedure to sham in reducing hyperglycemia at 24 weeks	• Expect to initiate study after completion of the Remain-1 study

Study and Status	Study Design	Primary Objectives	Milestones
U.S. Pilot. Pilot study in patients with sub-optimally controlled T2D despite being on metformin in combination with one to two additional OADs Completed (prematurely ended)	• Randomized (2:1), double-blind, crossover, sham-controlled, multi-center • Two arms: DMR and sham • 9 patients • ~10 cm DMR • No formal statistical powering	• Evaluate the safety and efficacy of the Revita DMR Procedure on certain glycemic endpoints	• The Revita DMR Procedure was generally well tolerated • As agreed with the FDA, the study was prematurely ended due to the COVID-19 pandemic and subsequent authorization to proceed with the Revitalize-1 study
Revita-2. Clinical study in patients with sub-optimally controlled T2D despite being on an OAD and/or metformin Completed	• Randomized, double- blind, crossover, sham- controlled, multi-center • ~10 cm DMR • Two arms: DMR and sham • 108 patients	• Evaluate the safety and efficacy of the Revita DMR Procedure on certain T2D-related endpoints	• Baseline reduction of HbA1c, MRI-PDFF, HOMA-IR and weight when compared to the sham arm (p*=<0.05) • The Revita DMR Procedure was generally well tolerated
INSPIRE. Investigator- initiated pilot study in T2D patients on long-acting insulin Completed	• Open-label, single- center • ~15 cm DMR • Single arm • 16 patients	• Evaluate the feasibility of eliminating insulin therapy in T2D patients by combining the Revita DMR Procedure with a GLP-1 and lifestyle counseling	• 69%, 56% and 53% of patients at 24 weeks, 48 weeks and 72 weeks, respectively, were off insulin therapy with an HbA1c of 7.5% or less
Revita-1. Feasibility study in patients with poorly controlled T2D despite at least one OAD Completed	• Open-label, multi- center • ~9 cm DMR • Single arm • 46 patients	• Evaluate the safety and effectiveness of the Revita DMR Procedure on certain glycemic endpoints	• Baseline mean HbA1c reduction of 0.9% at 24 weeks (p*=<0.001) • Baseline mean reduction in total body weight of 3.1% sustained through two years (p=0.01) • The Revita DMR Procedure was generally well tolerated
Revita First-in-Human. Clinical study in patients with poorly controlled T2D despite at least one OAD Completed	• Open-label, single- center • Single arm: LS-DMR (~9 cm) and SS-DMR (~3 cm) • 57 patients	• Evaluate the safety and feasibility of the Revita DMR Procedure over variable lengths of the duodenum	• Baseline mean HbA1c reduced by 2.5% at 12 weeks (LS-DMR) (p*=<0.05) • Baseline mean HbA1c reduced by 1.2% at 12 weeks (SS-DMR) (p*=<0.05) • The Revita DMR Procedure was generally well tolerated; duodenal stenosis observed in three patients with good resolution post-balloon dilation

* p-value represents the chance that the observed results occurred by chance alone. A p-value of less than 0.05 is considered statistically significant.

Key Metrics

The outcomes of our clinical studies are evaluated by a number of well-known validated glycemic metrics, including:

Glycosylated Hemoglobin (HbA1c %). HbA1c reflects average levels of blood glucose over the previous two to three months and is the most widely used clinical test to estimate mean blood glucose and monitor glycemic control.

Fasting Plasma Glucose (mg/dL or mmol/L). FPG measures the serum glucose concentration after an overnight fast of at least eight hours providing an instantaneous measure of glucose homeostasis.

Oral Glucose Tolerance Test. A oral glucose tolerance test, or OGTT, evaluates beta cell function after a patient ingests a fixed glucose solution. To perform the test, blood glucose is measured immediately prior to consumption and typically every 30 minutes two hours after consumption. Area under the curve, or AUC, OGTT is the calculation of the total excess of blood glucose measured during the course of the OGTT.

Revita Clinical Program Insights

Our Revita clinical program design has been informed by our prior clinical studies and expertise in the field of metabolic diseases, including T2D. We have evaluated the Revita DMR Procedure in over 15 clinical centers and it has been performed by more than 20 different endoscopists. We have followed most patients beyond 12 months post-procedure to observe the long-term safety of the Revita DMR Procedure, including its effects on glucose

homeostasis and weight, and, in all, we have observed over 500 patient-years of DMR procedure exposure data using Revita. Based on these experiences, we believe the Revita DMR Procedure has the potential to:

- improve glycemic control in T2D patients on insulin;
- improve glycemic control in T2D patients on one or more ADAs who are not yet on insulin;
- enable weight maintenance in patients with obesity; and
- reduce the risk of developing diabetes in patients with high-risk prediabetes

We are initially focused on developing Revita to improve glycemic control in T2D patients on insulin and plan to expand to pursue earlier indications in T2D, prediabetes, and obesity.

Ongoing Germany Real-World Registry

In April 2023, we initiated the Germany Real-World Registry, a prospective, post-market, clinical follow-up study to evaluate the Revita DMR Procedure in patients with inadequately controlled T2D. Our inclusion criteria includes patients ages 18 and over, with a baseline HbA1c between 7.0% and 10.0%, a BMI of less than or equal to 45 and on at least one ADA. The study will assess change in HbA1c, change in number of ADAs, safety and tolerability, quality of life and patient reported outcomes, and healthcare utilization expenditure over five years in patients with T2D after receiving the Revita DMR Procedure in a real-world setting.

As of August 1, 2023, we have enrolled 15 subjects in the registry study and have received interim follow-up data from one patient in this study. At three months post-procedure, we observed that HbA1c levels dropped from a baseline of 7.6% to 5.3% while also enabling discontinuation of all three ADAs the patient had previously been prescribed: metformin, a dipeptidyl peptidase-4 inhibitor, and long-acting insulin. This patient also lost six kg, their triglyceride levels normalized from a baseline value of 363 mg/dL to 52 mg/dL, their LDL cholesterol improved from 84 mg/dL to 65 mg/dL and their elevated liver transaminase values improved. The improvement in blood glucose control and other parameters of metabolic syndrome suggest a significant overall improvement in metabolic health.

We plan to continue to enroll more patients in the Germany Real-World Registry across several centers and will continue to report on clinical, health economic, and patient-relevant outcomes from this study on an ongoing basis.

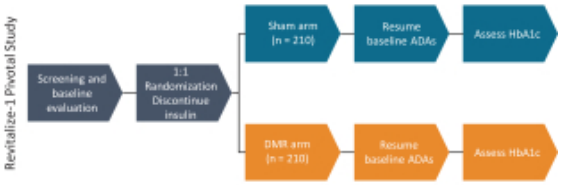
Ongoing Revitalize-1 Pivotal Clinical Study

In March 2021, we commenced Revitalize-1 (formerly known as REVITA-T2Di), a randomized, double-blind, crossover, sham-controlled, multi-center pivotal clinical study in patients with inadequately controlled T2D despite being on up to three ADAs and 20 to 100 units of insulin daily. The study is to take place across approximately 35 sites in the United States and the European Union. This pivotal clinical study is designed as a two-stage study. We plan to enroll up to 140 patients in the first stage and up to 420 patients in the second stage, with a primary endpoint at 24 weeks and a 48 week follow-up. The first stage is an open-label, single-arm study for each site to gain experience with the study protocol and the DMR procedure in two to four patients before moving into the pivotal study (i.e., stage 2) with the other patients. The clinical evaluation committee, or the CEC, will provide oversight on adequate training by the endoscopist and site readiness. Once confirmed by the CEC, the site will be opened to enrollment for the pivotal study.

The first ten patients enrolled in stage 1 of this study (consistent with an older version of our protocol) underwent a drug washout period that subsequently enrolled patients will not undergo. We plan to continue long-term follow-up of these patients in parallel with the other patients from this study. The table below depicts the Revitalize-1 clinical study design.

Revitalize-1 Pivotal Clinical Study Design (n = 420 patients)

Treatment	▪ DMR or sham ▪ Outpatient, same day procedure
Population	▪ Up to three ADAs ▪ Insulin (20 to 100 units/day) ▪ HbA1c: 7.5% to 10.0% ▪ BMI: >24 to ≤40kg/m^2 ▪ Age: 21 to 70 years old
Primary Endpoint	▪ Change from baseline in HbA1c at 24 weeks, DMR vs. Sham
Key Secondary Endpoints	▪ Percentage of patients who achieve a HbA1c of ≤7& at 24 weeks, DMR vs. sham ▪ Change from baseline in FPG at 24 weeks, DMR vs. sham ▪ Percentage of total body weight loss from baseline at 24 weeks, DMR vs. sham ▪ Percentage change from baseline in total daily insulin dose at 24 weeks, DMR vs. sham ▪ Percentage of patients without the need for insulin at 24 weeks, DMR vs. sham



We anticipate the primary endpoint of Revitalize-1, based off our discussions with the FDA, will be the change from baseline in HbA1c (DMR vs. sham) at 24 weeks. The sham patients have the opportunity to crossover to the DMR arm at 48 weeks. A trained evaluator plans to assess all patients in the clinic post-procedure at various specified time intervals, including at four weeks, 12 weeks, 24 weeks and 48 weeks.

We expect topline data from the randomized phase of the study in the fourth quarter of 2024. In addition, enrolled patients and clinical investigators will remain blinded through 48 weeks, allowing an additional 24 weeks of follow-up data beyond the primary endpoint.

If Revitalize-1 is successful, we plan to file a PMA in the first half of 2025. As part of our PMA, we intend to submit the 24-week primary endpoint data and the follow-up data through 48 weeks. We have discussed this study design with the FDA, and we believe, based on correspondence with the FDA, this data may support a PMA for Revita to improve glycemic control in T2D patients who are inadequately controlled on insulin. Our decision to establish a 24-week primary endpoint to support a finding of effectiveness is based on FDA regulatory precedent for T2D drug products, including our correspondence with the FDA. In addition, we believe longer term data, including 48-week follow-up, may support claims of durable effectiveness.

If Revita is approved, longer term follow-up studies beyond 48 weeks will likely be performed as part of a PAS, including potentially studying the safety and effectiveness of repeat procedures, should they be necessary. Based on regulatory precedent, we believe a PAS may be conducted in parallel with the commercial launch of Revita.

Interim Data—Stage 1 Drug Washout (REVITA-T2Di) Cohort

The first ten patients enrolled in stage 1 of the REVITA-T2Di study (an older version of the Revitalize-1 protocol) underwent a drug washout period and a screening endoscopy. The inclusion criteria included an HbA1c of 7.5% to 9.5%, FPG of greater than or equal to 180 mg/dL to 270 mg/DL and being on metformin, long-acting insulin (20 to 60 units/day) and up to two additional ADAs. Patients were started on 10 mg of empagliflozin on day one post-procedure and increased to 25 mg (or the max tolerated dose) by day 15. One patient was found to have an intercurrent condition and was excluded at the time of endoscopy and was not treated. Nine subjects
were therefore treated with Revita. All nine procedures were successfully completed across four treating centers by five different endoscopists, including three endoscopists new to Revita as part of this study. Of the nine patients, two were not able to complete the 48-week follow-up due to discontinuations unrelated to the Revita DMR Procedure at four weeks and 23 weeks, respectively.

In the seven remaining patients, we observed a median HbA1c reduction of 1.6%, median FPG reduction of 77 mg/dL, median insulin dose reduction of 44% and median weight reduction of 9.3% at 48 weeks. Six of the seven patients reduced their insulin dose while one patient discontinued insulin completely.

In the nine treated patients, two device- or procedure-related adverse events, or DPRAEs, and three non-device or procedure-related treatment-emergent serious adverse events, or TESAEs, were reported. Of the two DPRAEs, one patient reported abdominal pain and another reported diarrhea, which are events that may also occur with routine endoscopies. The three non-device or procedure-related TESAEs reported were COVID-19, hypertension and euglycemic ketoacidosis (related to empagliflozin). The patient that was reported to have euglycemic ketoacidosis was one of the patients that discontinued the study. No device or procedure-related TESAEs or unanticipated adverse device effects, or UADEs, were reported.

Planned Remain-1 Clinical Study

We plan to initiate Remain-1, a randomized, double-blind, sham-controlled, multi-center clinical study to assess weight maintenance in patients with obesity who have lost weight on GLP-1RA therapy and wish to discontinue their GLP-1RA without weight regain. We plan to conduct the Remain-1 study in the United States and Europe and expect to enroll 300 patients. Of these patients, 200 will be in the DMR arm and 100 will be in the sham arm.

The primary objective of this study will be to evaluate the effectiveness of the Revita DMR Procedure on weight maintenance at 24 weeks after discontinuation of tirzepatide or semaglutide. Secondary objectives will include evaluating the effectiveness of the Revita DMR Procedure on the change in blood glucose levels, CVD risk factors and body composition.

We expect to submit an IDE and comparable documents to the FDA and comparable foreign regulatory authorities or notified bodies in the first half of 2024 for a potentially pivotal Remain-1 study.

Planned Revitalize-2 Pivotal Clinical Study

We plan to initiate Revitalize-2, a randomized, double-blind, sham-controlled, multi-center pivotal clinical study in patients with T2D who are inadequately controlled on two or three ADAs but not yet on insulin. The study is to take place across approximately 35 sites in the United States and 20 sites outside of the United States (with more than 50% of patients in the United States). This study is designed as a two-stage study and we plan to enroll up to 110 patients in the first stage, and up to 400 patients in the second stage, for a total of up to 510 patients.

The first stage is an open-label, single-arm study for each site to gain experience with the study protocol and the DMR procedure in patients before moving into the pivotal study (i.e., stage 2) with the other patients. Sites with previous experience performing the DMR procedure will be required to enroll one patient in stage 1, while sites that are naïve to performing the DMR procedure will be required to enroll two patients in this stage. Prior to entering stage 2, the CEC will review performance of the DMR procedure at each site and may recommend enrollment of additional patients in stage 1 at certain individual sites (maximum of two additional patients) if needed to ensure proficiency of the DMR procedure. The table below depicts the Revitalize-2 pivotal clinical study design.

Revitalize-2 Pivotal Clinical Study Design (n = 400 patients)

Treatment	• DMR or sham • Outpatient, same day procedure
Population	• Two or three ADAs, except insulin, meglitinides or sulfonylureas • Ongoing or discontinued GLP-1[1] • HbA1c: 8% to 10% • BMI: ≥ 24 and ≤ 40kg/m^2 • Age: 18 to 70 years old
Primary Endpoint	• Change from baseline in HbA1c at 24 weeks, DMR vs. sham
Key Secondary Endpoint	• Percentage of patients who achieve a HbA1c of ≤7% without insulin rescue therapy at 24 weeks, DMR vs. sham

The primary endpoint will be to evaluate the efficacy of the Revita DMR Procedure on the change from baseline of HbA1c at 24 weeks. In addition, the patients and the clinical investigators will remain blinded through 48 weeks, allowing an additional 24 weeks of follow-up data beyond the primary endpoint.

The key secondary endpoint will be to evaluate the percentage of patients who achieve a HbA1c of less than or equal to 7% without insulin rescue therapy at 24 weeks.

Like the Revitalize-1 study and FDA regulatory precedent for T2D drug products, we have established a 24-week primary endpoint for the Revitalize-2 study. Further, we plan to keep patients blinded through 48 weeks to allow blinded and controlled safety and effectiveness assessments at 48 weeks. Based on feedback we obtained from the FDA regarding the primary endpoint of the Revitalize-2 study, we believe the FDA may seek an assessment of effectiveness at 48 weeks to better understand the durability of the Revita DMR Procedure as part of a PMA. We intend to discuss durability assessments at 48 weeks further with the FDA. If the Revitalize-2 study is completed subsequent to a potential Revita PMA approval pursuant to the Revitalize-1 study, we plan to use the data from Revitalize-2 to file for an expanded label as part of a PMA supplement.

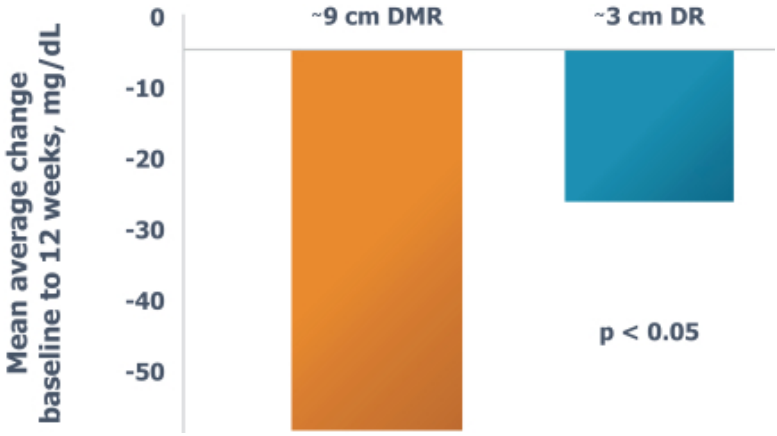
We plan to initiate the Revitalize-2 study after the Remain-1 study is complete.

Revita First-in-Human Clinical Study

In 2013, we initiated the Revita FIH clinical study in 39 T2D patients. Our inclusion criteria included patients ages 28 to 75, with a baseline HbA1c between 7.5% and 12%, a BMI between 24 and 40, documentation of preserved pancreatic function (as defined by a fasting C-peptide value of greater than or equal to 1 ng/mL), on at least one stable OAD for a minimum of three months and a T2D diagnosis within the past ten years. Patients either received long-segmented ablation (mean length ablated: 9.3 cm), or LS-DMR, or short-segmented ablation (mean length ablated: 3.4 cm), or SS-DMR. The open-label feasibility study took place in Santiago, Chile and was conducted to evaluate the safety and feasibility of the Revita DMR Procedure over variable lengths of the duodenum. All patients were assessed in the clinic by a trained evaluator post-procedure at various specified time intervals, including at four weeks, 12 weeks and 24 weeks.

This study was designed as a single-arm, open-label feasibility study. The Revita DMR Procedure was observed to be feasible and generally well tolerated, with ablations performed in escalating lengths of the duodenum ranging from 3 cm to 9 cm in length. Exploratory endpoints evaluated included, among others, the baseline mean change of HbA1c and baseline mean change of FPG. We observed that the patients who received LS-DMR had a statistically significant 2.5% reduction in baseline mean HbA1c at 12 weeks post-procedure as compared to 1.2% for the patients who received SS-DMR ($p < 0.05$). At 24 weeks post-procedure, similar baseline mean HbA1c reduction of 1.4% and 0.7% were observed in the LS-DMR and SS-DMR cohorts, respectively, with a statistically significant overall baseline mean HbA1c reduction of 1.2% at 24 weeks in the full cohort (LS-DMR and SS-DMR) ($p < 0.001$). Early and sustained improvement in FPG was also observed among the full cohort, as depicted in the graph below.

Change in FPG in LS-DMR as Compared to SS-DMR at 12 Weeks



The Revita DMR Procedure was observed to be generally well tolerated, with mostly mild and transient GI symptoms. Three patients experienced duodenal stenosis that required an endoscopic balloon dilation with good resolution. We observed no GI bleeds, infection, pancreatitis, or evidence of malabsorption or significant hypoglycemia.

Revita-1 Feasibility Study

In 2015, we initiated an open-label, multi-center feasibility study in 46 patients. Our inclusion criteria included patients ages 28 to 75, with a baseline HbA1c between 7.5% and 11%, a BMI between 24 and 40 kg/m2, on at least one stable OAD for a minimum of three months and had a T2D diagnosis within the past ten years. The study took place across multiple sites in Europe and South America, and was conducted to evaluate the safety and effectiveness of the Revita DMR Procedure on certain glycemic endpoints. Patients either underwent a dual-catheter DMR or single-catheter DMR procedure of nine to ten centimeters and were stratified into the safety population (n=46) or PP population (n=34). All patients were assessed in the clinic by a trained evaluator post-procedure at various specified time intervals, including at four weeks, 12 weeks, 18 weeks and 24 weeks. In addition, we conducted a long-term follow-up study of the PP population through 24 months.

The primary endpoint of the study was to evaluate the baseline mean reduction of HbA1c at 24 weeks. We observed a statistically significant absolute baseline mean HbA1c reduction of 0.9% in the PP population at 24 weeks ($p \leq 0.001$). In addition, we observed a statistically significant baseline mean HbA1c mean reduction of 0.8% and 1.0% in the dual-catheter patients and the single-catheter patients, respectively, in the PP population ($p \leq 0.001$ for both). We also observed a statistically significant absolute baseline mean HbA1c reduction of 1.0% in the PP population at 48 weeks ($p \leq 0.001$).

Secondary endpoints included, among others, baseline mean reduction of FPG, insulin resistance and weight. We also conducted post-hoc analyses of the baseline mean reduction of ALT and AST at 24 weeks. To quantify the reduction in insulin resistance, we used the Homeostatic Model Assessment of Insulin Resistance, or HOMA-IR. This model is able to quantify insulin resistance by evaluating a patients FPG and insulin levels. The table below depicts our observations of these secondary endpoints, including the ALT and AST post-hoc evaluations, at 24 and 48 weeks.

Measurement	Baseline	24 Weeks	24 Week Difference	P-Value*	48 Weeks	48 Week Difference	P-Value*
FPG (mmol/L)	10.7 ± 0.4	9.0 ± 0.4	-1.7 ± 0.5	≤ 0.001	8.9 ± 0.4	-1.8 ± 0.5	≤ 0.001
HOMA-IR	8.2 ± 1.0	5.2 ± 0.8	-2.9 ± 1.1	0.007	4.9 ± 0.6	-3.3 ± 0.9	≤ 0.001
Weight (kg)	90 ± 2	88 ± 2	-2 ± 1	≤ 0.001	88 ± 2	-2 ± 1	≤ 0.001
ALT (IU/L)	40 ± 2	31 ± 1	-8 ± 3	0.016	30 ± 1	-9 ± 3	≤ 0.001
AST (IU/L)	28 ± 2	23 ± 1	-5 ± 2	0.002	22 ± 1	-6 ± 1	≤ 0.001

* P-values resulting from ANOVA repeated measurement analysis with Bonferroni correction

In the long-term follow-up study of the PP population, we observed statistically significant mean changes of HbA1c, FPG and weight. Out of the 34 patients in the PP population, seven patients discontinued follow-up in the HbA1c analysis and six patients discontinued follow-up in the FPG and weight loss analysis prior to the 24-month check-in. The table below depicts our observations in the long-term follow-up study of the PP population at 24 months.

Measurement	Baseline	24 Months	P-Value*
HbA1c	8.5 ± 0.7	7.5 ± 1.1(n=27)	0.034
FPG (mg/dL)	198.4 ± 41.2	165.9 ± 0.9(n=28)	< 0.001
Weight** (kg)	88.9 ± 11.8	-3.1 ± 6.0(n=25)	0.010

* P-values resulting from ANOVA repeated measurement analysis with Bonferroni correction
** Raw change

No UADEs or device-related SAEs were reported. Three device-related events occurred in one subject, including two reports of abdominal pain and one report of nausea on the first day after the procedure. Each device-related event was resolved with medication. There were a total of ten SAEs reported in seven patients, one of which was considered procedure-related. The single procedure- related SAE occurred in a single-catheter patient where the patient experienced a mildly elevated body temperature and an increase in C-reactive protein. The investigator elected to keep the patient in the hospital overnight for observation, which made the event an SAE. This event was determined to be not device-related.

The other SAEs reported were patient specific and determined to not be device-related. For example, one patient experienced SAEs from a new diagnosis of lung cancer and died approximately 11 months post- procedure. Overall, the Revita DMR Procedure was observed to be generally well tolerated in the full cohort.

Revita-2 Clinical Study

In March 2017, we initiated a randomized, double-blind, crossover, sham-controlled clinical study in 108 patients with sub-optimally controlled T2D despite being on OADs and/or metformin across multiple sites in Europe and Brazil. The study was conducted to evaluate the safety and efficacy of the Revita DMR Procedure, as measured by certain T2D-related endpoints. The primary endpoints of the study were to evaluate the baseline

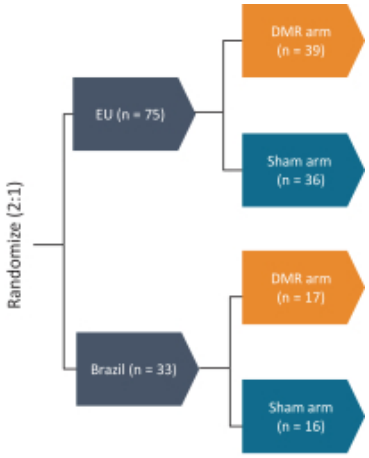
change of HbA1c at 24 weeks and the absolute baseline change of proton density fat fraction (a validated biomarker used to quantify liver fat) through magnetic resonance imaging, or MRI-PDFF, at 12 weeks (mITT). Secondary endpoints included, among others, (i) the absolute baseline change of MRI-PDFF in patients with a baseline MRI-PDFF of greater than 5%, indicating NAFLD or NASH, (ii) the absolute change of MRI-PDFF in patients with a baseline FPG of 180 mg/dL or greater, (iii) reduction in insulin resistance and (iv) weight loss.

All patients initially went through a 4-week run-in period to confirm lack of blood glucose control in conjunction with medication compliance and nutritional counseling. Patients then either underwent the DMR procedure or the sham procedure. The dosage of each patient's OADs was held constant from the start of the run-in period through week 24. All patients were assessed in the clinic by a trained evaluator post-procedure at various specified time intervals, including at four weeks, 12 weeks, 18 weeks and 24 weeks. The table below depicts the Revita-2 clinical study design.

Revita-2 Clinical Study Design (n = 108 patients)

Treatment	• DMR or sham • Outpatient, same day procedure
Population	• OADs and/or metformin(1) • HbA1c: 7.5% to 10% • Fasting insulin > 7.0 µU • BMI: >24 to ≤40kg/m² • Age: 28 to 75 years old
Primary Endpoint	• Baseline change of HBA1c at 24 weeks, DMR vs. sham • Absolute baseline change of MRI-PDFF at 12 weeks, DMR vs. sham (mITT)
Key Secondary Endpoints	• Baseline change of MRI-PDFF at 12 weeks, DMR vs. sham • Reduction of HOMA-IE at 24 weeks, DMR vs. sham • Weight loss at 24 weeks, DMR vs. sham

(1) No changes in medications in 12 weeks prior to study entry



In the overall study, we observed an HbA1c reduction of 1.0% in DMR group as compared to 0.7% in sham group, and an MRI-PDFF reduction of 5.4% in DMR group as compared to 2.9% in sham group. A pre- specified test of heterogeneity in the statistical analysis plan led to the separation of the analyses of the Brazilian and European modified intention-to-treat, or mITT, and PP populations. This separation was due to (i) the lack of homogeneity between the populations identified by our statistical analysis plan, (ii) key clinical observations demonstrating the Brazilian population had implausible large improvements in glucose control and weight, including patients in the sham arm, which was inconsistent with results observed in the European sham patients, (iii) independent on-site audits in Brazil showed key differences compared to Europe in the documentation of use of medications (changes in medications) and more intensive glucose monitoring and nutritional guidance, and (iv) other post-hoc statistical analyses confirming key differences in the two populations.

Both HbA1c and MRI-PDFF primary endpoints were met in the European population and demonstrated statistically significant superiority of DMR as compared to sham.

European Population Results

We observed a 0.60% baseline mean reduction of HbA1c at 24 weeks in the mITT European DMR arm (n=38), which was statistically significantly greater than the 0.30% reduction observed in the mITT European sham arm (n=33; p=0.033). In the PP European DMR arm (n=32), we observed a 0.8% baseline mean reduction of HbA1c at 24 weeks, which was statistically significantly greater than the 0.3% reduction observed in the PP European sham arm (n=32; p=0.004). We observed a 5.4% absolute baseline median reduction of MRI-PDFF in

the mITT European DMR arm (n=30) and the PP European DMR arm (n=28) at 12 weeks for these patients, which was statistically significantly greater than the 2.2% reduction observed in the mITT European sham arm (n=30; p=0.035) and the 2.2% reduction observed in the PP European sham arm (n=28; p=0.011).

Secondary endpoints included, among others, (i) the baseline change of MRI-PDFF in patients with a baseline MRI-PDFF of greater than 5%, indicating NAFLD or NASH, at 12 weeks, (ii) reduction in insulin resistance (HOMA-IR) at 24 weeks and (iii) weight loss at 24 weeks. At 12 weeks post-procedure, we observed a 32.1% median reduction of MRI-PDFF in the European DMR arm, which was statistically significantly greater than the 17.9% reduction observed in the European sham arm (p=0.020). We observed a 1.3 median reduction of HOMA-IR in the mITT European DMR arm (n=33) and the PP European DMR arm (n=31) at 24 weeks, which was significantly greater than the 0.4 reduction observed in the mITT European sham arm (n=25; p=0.060) and the 0.4 reduction observed in the PP European sham arm (n=25; p=0.047). In addition, we observed a statistically significant median weight loss of 2.4 kg in the mITT European DMR arm (n=38) as compared to a median weight loss of 1.4 kg in the mITT European sham arm (n=34; p=0.012) at 24 weeks. In the PP European DMR arm (n=35), we observed a statistically significant median weight loss of 2.5 kg as compared to a median weight loss of 1.4 kg in the PP European sham arm (n=34; p=0.005).

Brazilian Population Results

The results we observed in the Brazilian population were similar to those seen in the European population, except for the MRI-PDFF endpoint. We observed a greater reduction of HbA1c, HOMA-IR and weight in the Brazilian DMR arm as compared to the Brazilian sham arm at 24 weeks. These results were not statistically significant due to the small sample size of the Brazilian population and the separation of these populations as discussed above. Because of the small sample size of the Brazilian population and the findings of the audit, these results should be interpreted with caution.

Adverse Events

No UADEs or device-related SAEs were reported. Adverse event of special interest, or AESI, rates were comparable between the DMR and sham arms. In the Brazilian population, 11.8% of the randomized DMR patients experienced SAEs, all of which were considered to be related to the study procedure and not Revita. In addition, there were no clinical or laboratory signs of adverse events related to malabsorption, anemia, pancreatitis, biliary complications, or infection reported. The table below depicts the AEs observed in the study, separated by European and Brazilian sites, as part of the analyses described above.

	Europe						Brazil					
	DMR n=39			Sham n=37			DMR n=17			Sham n=16		
	# of events	n (%)	95% CI	# of events	n (%)	95% CI	# of events	n (%)	95% CI	# of events	n (%)	95% CI
Summary (through 24 weeks post treatment)												
SAE	0	0	(0.0 to 9.0)	0	0	(0.0 to 9.5)	3	2 (11.8)	(1.5 to 36.4)	0	0	(0.0 to 20.6)
UADE	0	0	(0.0 to 9.0)	0	0	(0.0 to 9.5)	0	0	(0.0 to 19.5)	0	0	(0.0 to 20.6)
AESI	19	13 (33.3)	(19.1 to 50.2)	16	10 (27.0) (13.8 to 44.1)	74	12 (70.6)	(44.0 to 89.7)	76	10 (62.5)	(35.4 to 84.8)	
Most common (>5%) AESIS by preferred term (<30 days pot treatment)												
Abdominal pain	9	7 (17.9)	(7.5 to 33.5)	2	2 (5.4)	(0.7 to 18.2)	6	5 (29.4)	(10.3 to 56.0)	2	2 (12.5)	(1.6 to 38.4)
Diarrhea	1	1 (2.6)	(0.1 to 13.5)	2	2 (5.4)	(0.7 to 18.2)	1	1 (5.9)	(0.2 to 28.7)	1	1 (6.3)	(0.2 to 30.2)
Nausea	1	1 (2.6)	(0.1 to 13.5)	0	0	(0.0 to 9.5)	2	2 (11.8)	(1.5 to 36.4)	0	0	(0.0 to 20.6)
Vomiting	1	1 (2.6)	(0.1 to 13.5)	0	0	(0.0 to 9.5)	1	1 (1.59)	(0.2 to 28.7)	0	0	(0.0 to 20.6)
Hypoglycemia	3	3 (7.7)	(1.62 to 20.9)	3	2 (5.4)	(0.7 to 18.2)	11	6 (35.3)	(14.2 to 61.7)	21	7 (43.8)	(19.8 to 70.1)
Most common (>5%) AESIS by preferred term (>30 days pot treatment)												
Abdominal pain	1	1 (2.6)	(0.1 to 13.5)	2	2 (5.4)	(0.7 to 18.2)	0	0	(0.0 to 19.5)	0	0	(0.0 to 20.6)
Hypoglycemia	1	1 (2.6)	(0.1 to 13.5)	4	2 (5.4)	(0.7 to 18.2)	53	5 (29.4)	(10.3 to 56.0)	52	8 (50.0)	(24.7 to 75.4)

INSPIRE Pilot Study

In 2017, van Baar et al. initiated an open-label, single-center pilot study in 16 patients with T2D on guideline-directed long-acting insulin. The study took place in the Netherlands and was conducted to evaluate the feasibility of eliminating insulin therapy in T2D patients by combining the Revita DMR Procedure with a GLP-1 and lifestyle counseling, including a tailored diet. All patients were assessed in the clinic by a trained evaluator post- procedure at various specified time intervals, including at 6 months, 12 months and 18 months, and the results of this study were published in *Gastrointestinal Endoscopy*. The table below depicts the INSPIRE pilot study design.

INSPIRE Pilot Study Design (n = 16 patients)(1)

Treatment	• DMR • Outpatient, same day procedure • Add GLP-1(1)
Population	• Long-acting insulin(2) • HbA1c: ≤ 8% • C-reactive peptide: ≥ 0.5 ng/mL • BMI: ≥ 28 and ≤ 40 kg/m^2 • Age: 25 to 75 years old
Primary Endpoint	• Percentage of patients free of insulin therapy through 6 months with HbA1c ≤ 7.5% at 6 months
Key Secondary Endpoints	• Baseline reduction of HbA1c, HOMA-IR and weight at 6 months

(1) Insulin therapy discontinued immediately after DMR procedure
(2) Liraglutide, an FDA-approved GLP-1RA, was introduced two weeks post-procedure with a stepwise dose increase to 1.8 mg/day or the max tolerated dose

The primary endpoint of the pilot study was the percentage of patients free of insulin therapy through 6 months with an HbA1c less than or equal to 7.5% at 6 months. Investigators observed 69% of patients were free of insulin therapy with an HbA1c less than or equal to 7.5% at 6 months. This result was not statistically significant.

Secondary endpoints were the changes in multiple glycemic and metabolic parameters and the percentage of patients free of insulin with an HbA1c less than or equal to 7.5% at 12 and 18 months, respectively. Out of the 16 patients enrolled, one discontinued follow-up prior to the 18-month check-in. The table below depicts the secondary endpoint observations.

Measurement	Baseline	12 Months	P-Value	18 Months	P-Value
Glycemic parameters					
Patients off insulin	0 (0)	9 (56)		8 (53)*	0.0008
HbA1c	7.5 (7.1-7.9)	7.3 (6.6-8.2)	0.690	7.1 (6.6-7.5)	0.208
HOMA-IR	8.4 (4.3-12.0)	3.8 (2.4-7.9)	0.015	3.9 (2.0-6.0)	0.006
FPG (mmol/L)	10.1 (8.9-12.0)	7.1 (6.6-9.5)	0.006	7.3 (6.7-8.4)	0.011
Fasting insulin (pmoll/L)	104 (49-178)	71 (45-121)	0.116	63 (34-110)	0.036
Fasting C-peptide (nmol/L)	0.63 (0.55-0.91)	0.58 (0.39-0.70)	0.224	0.46 (0.39-0.59)	0.245
Metabolic parameters					
Weight (kg)	87.8 (80.2-99.7)	80.8 (73.2-95.8)	0.001	80.7 (73.8-96.8)	0.001
BMI (kg/m2)	28.8 (26.5-31.7)	27.7 (23.4-30.1)	0.001	26.4 (23.5-30.2)	0.001
MRI-PDFF**	8.1 (4.0-13.5)	5.6 (2.8-10.9)	0.035		

* One patient did not agree to continue follow-up to 18 months
** MRI-PDFF was known in 15 of 16 patients

We believe this study demonstrated that a single Revita DMR Procedure in combination with GLP-1 and lifestyle counseling, may eliminate the need for insulin therapy in T2D patients while improving glycemic control and overall metabolic health.

U.S. Pilot Study

In March 2019, we initiated a randomized, double-blind, crossover, sham-controlled pilot study. Our inclusion criteria included patients ages 28 to 65, with a baseline HbA1c between 7.5% and 9.5%, a BMI between 28 and 40 kg/m2 and were on metformin in combination with one to two additional OADs across multiple sites in the United States. The doses of two of the OADs must have been at least half the maximum labeled dose (or highest tolerated) with no changes in medication in the 12 weeks prior to screening. The plan was to randomize 18 patients in a 2:1 ratio in favor of DMR. However, as discussed and agreed with FDA, the study was prematurely ended in July 2020 due to the COVID-19 pandemic and subsequent approval of the Revitalize-1 trial.

In total, nine patients were enrolled in this study and one patient randomized to the DMR arm received the sham procedure, which was considered a major protocol violation. The primary objective of the study was to evaluate the feasibility and safety of the Revita DMR Procedure. As a pilot evaluation, no statistical or powering assumptions were developed and implemented regarding the efficacy evaluation. Unblinding occurred at week 24 and sham treatment arm subjects who accepted the offer to crossover received DMR treatment and were followed for an additional 24 weeks.

All patients initially went through a 4-week run-in period to assess the stability of glycemic control in conjunction with medication compliance and diet and exercise counseling. Patients then either underwent the

DMR procedure or the sham procedure. The dosage of each patients OADs was held constant from the start of the run-in period through week 24. All patients were assessed in the clinic by a trained evaluator post-procedure at various specified time intervals, including at four weeks, 12 weeks, 18 weeks, and 24 weeks.

The primary endpoint of the study was to evaluate the change in baseline HbA1c at 24 weeks as compared to sham using descriptive statistics. Baseline was defined as the last observation recorded prior to the DMR or sham procedure. We observed endpoint data in only three patients because of the onset of the COVID-19 pandemic. In those three patients, a 0.33% baseline mean reduction of HbA1c at 24 weeks in the DMR arm was observed as compared to a 0.70% baseline mean reduction of HbA1c at 24 weeks in the sham arm. In addition, we observed a 0.80% baseline mean reduction of HbA1c at 18 weeks in the three crossover patients.

Due to the small sample size of this study, we were not able to draw any firm conclusions from the data presented above.

No SAEs, UADEs or TEAEs were reported. Incidents of AESIs, such as hypoglycemia and GI-related complications, were similar between the DMR and sham arms. Device-related TEAEs were reported at a lower incidence in the DMR arm, including the crossover patient, as compared to the sham arm. Each of the device-related TEAEs in the DMR arm, including diarrhea, oropharyngeal pain, abdominal distension, nausea and pyrexia, were also reported in the sham arm, except for nausea and fever.

Preclinical Studies Overview: Revita

We have evaluated the duodenum's role in glucose homeostasis in multiple preclinical studies, including a proof-of-concept study and large animal, human-excised tissue and human cadaveric studies. Taken together, we believe these studies provided support for the feasibility and safety of the Revita DMR Procedure before proceeding to human clinical studies.

Preclinical Studies: Proof-of-Concept

We conducted a preclinical study in a Goto-Kakizaki, or GK, rat model of T2D to evaluate whether selective removal of the duodenal mucosa may improve glucose homeostasis. The GK rat model was selected because it has been validated in bariatric surgical procedures to replicate human post-surgical improvement in glucose parameters. Due to the limitations of rat anatomy, the study was performed using abrasion rather than ablation. With a new catheter abrasion tool, rats were sedated, instrumented and had the first ten centimeters of their intestinal mucosa abraded. We observed that the abrasion of the intestinal mucosa resulted in a 34% improvement in AUC-OGTT blood glucose control (n=9) compared to sham-operated rats (n=5).

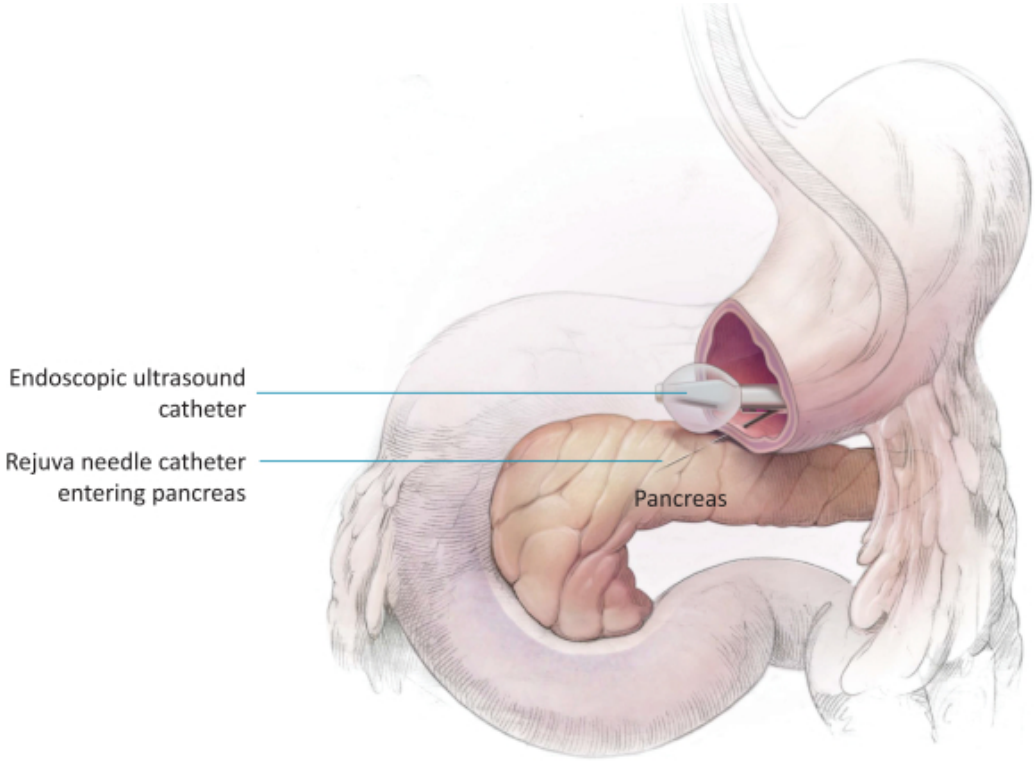
Preclinical Studies: Feasibility and Safety

We conducted preclinical studies in large animals, human-excised duodenal tissue and human cadavers to evaluate whether the Revita DMR Procedure may be feasible and tolerated in humans. Large animal studies were performed in Yorkshire pigs to assess the tolerability, feasibility and timeline of tissue healing following the DMR procedure. Human-excised duodenal tissue studies were performed to assess the feasibility of the Revita DMR Procedure in patients, which requires independent verification because of the anatomical differences in the duodenum between humans and animals. Lastly, human cadaveric studies were performed to interrogate catheter delivery and procedure development.

Rejuva Platform Description

Rejuva is a modular, physiologic gene therapy platform with three key elements designed to enable successful pancreatic gene therapy: (1) a proprietary delivery catheter designed to enable local, low dose therapeutic delivery directly to the pancreas via endoscopic access, (2) vectors with tropism for the pancreatic

islet to enable successful transduction and gene delivery with limited biodistribution via this route of administration, and (3) transgenes with tissue-restricted promoters and metabolically active peptides that can durably impact glucose and weight control. Rejuva is designed to directly administer a gene therapy into the pancreas with both mechanical and molecular confinement of the therapeutic candidate with local administration and tissue-specific promoters. The first gene therapy candidate for Rejuva will be a locally administered AAV9 viral vector with a GLP-1 receptor agonist transgene that expresses a GLP-1 hormone from the insulin promoter.



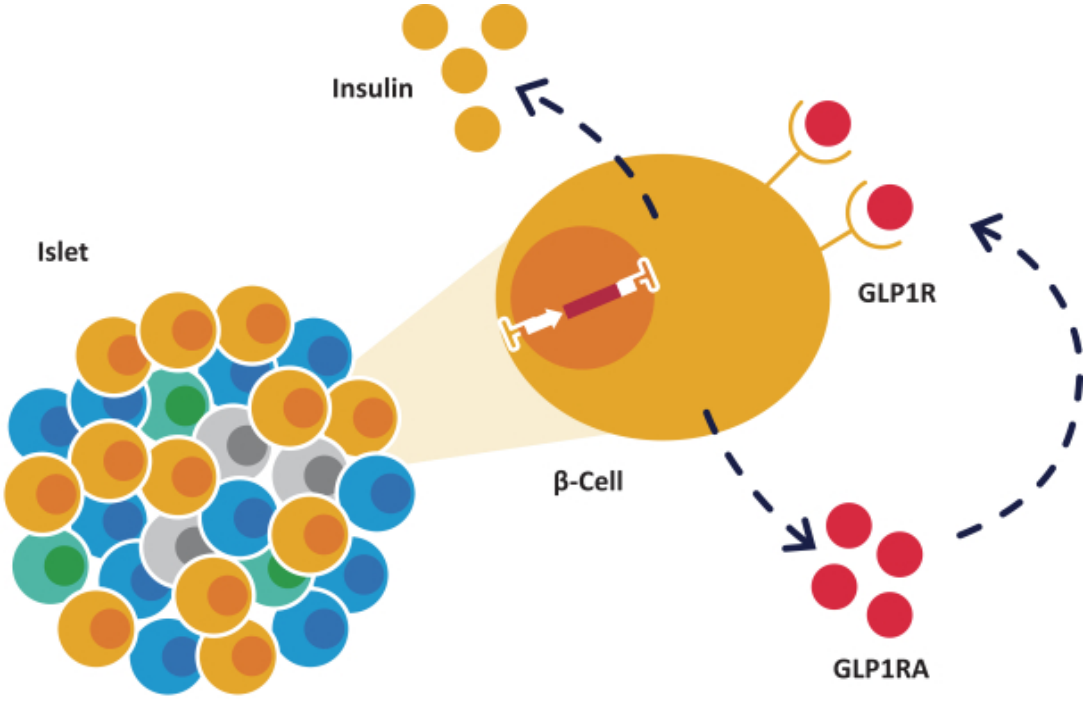
Rejuva Device Overview

The Rejuva catheter leverages (i) the Revita console that houses our proprietary technology and software, and (ii) a single-use Rejuva PGTx catheter. The console's touchscreen-based graphical user interface is designed to provide ease-of-use and clear guidance on the performance and progress of the procedure or the physician. The console houses sensors that are designed to monitor volume, pressure and flow rate of the delivery of the gene therapy candidates. We believe the console enables a targeted delivery process by enabling a proprietary safety mechanism that controls the parameters of delivery that are required to ensure minimal disruption to the pancreatic tissue, and potentially reduces the risk of physician error by automating certain steps of the treatment process by guiding the physician step-by-step through the procedure. The Rejuva catheter is composed of a narrow-gauge needle catheter that can be delivered through the working channel of a standard endoscopic ultrasound in which needle size, bevel shape, and aperture are designed to minimize risk of injury to the pancreas upon needle insertion.

Rejuva Drug Overview

The Rejuva drug platform is designed to be a modular, interchangeable platform composed of delivery vectors with high tissue tropism for the pancreatic islet and tissue-restricted promoters confining metabolically active transgene

expression to islet cells. The first gene therapy candidate for Rejuva will be a locally administered, non-replicating AAV9 viral vector with GLP-1 transgene under the control of a beta-cell specific promoter, an optimized human insulin promoter sequence. Our GLP-1 PGTx candidates are designed to express GLP-1 specifically in beta cells in a manner that will allow beta cells to produce, package, and secrete GLP-1 hormone in a similar method to insulin. In this way, the GLP-1 transgene product can act within the pancreatic islet on adjacent alpha and beta cells to augment local GLP-1 receptor activation and signaling. Because of this local expression, our GLP-1 PGTx candidates are designed to improve beta-cell health and function and thereby provide glycemic control while minimizing the side effects of systemic exposure to GLP-1RA. We believe our GLP-1 PGTx candidates will be a single administration with the potential to provide long-term metabolic benefits, even after therapy is discontinued, because the turnover rate of human beta cells is thought to be very low in adults. As such, AAV has already demonstrated durable persistence in the pancreas of rodents beyond a year with no observed decline in transgene signal.



Delivery Overview

Our Rejuva PGTx candidates are locally administered using a proprietary needle catheter that is uniquely designed for pancreas delivery in an outpatient, endoscopic procedure that may last less than thirty minutes. The procedure is performed by a trained endoscopist while the patient is under conscious sedation or general anesthesia. With the help of the Revita console, certain steps of the procedure are designed to be highly automated, which we believe minimizes the risk of physician error.

The procedure involves inserting the distal end of the single-use Rejuva catheter through the working channel of an endoscopic ultrasound imaging device and into the stomach. Ultrasound will be used to direct needle placement to the body and tail of the pancreas after identifying the pancreatic duct and other key anatomical structures. The needle is then advanced into the distal pancreas. The physician will confirm needle placement before enabling a precise dose of the drug candidate to be delivered into the pancreas by an automated syringe pump system in the console. During the administration, the console will measure the pressure and flow rate of the delivered fluid to prevent injury to the tissue and monitor the volume of delivery to control the precise

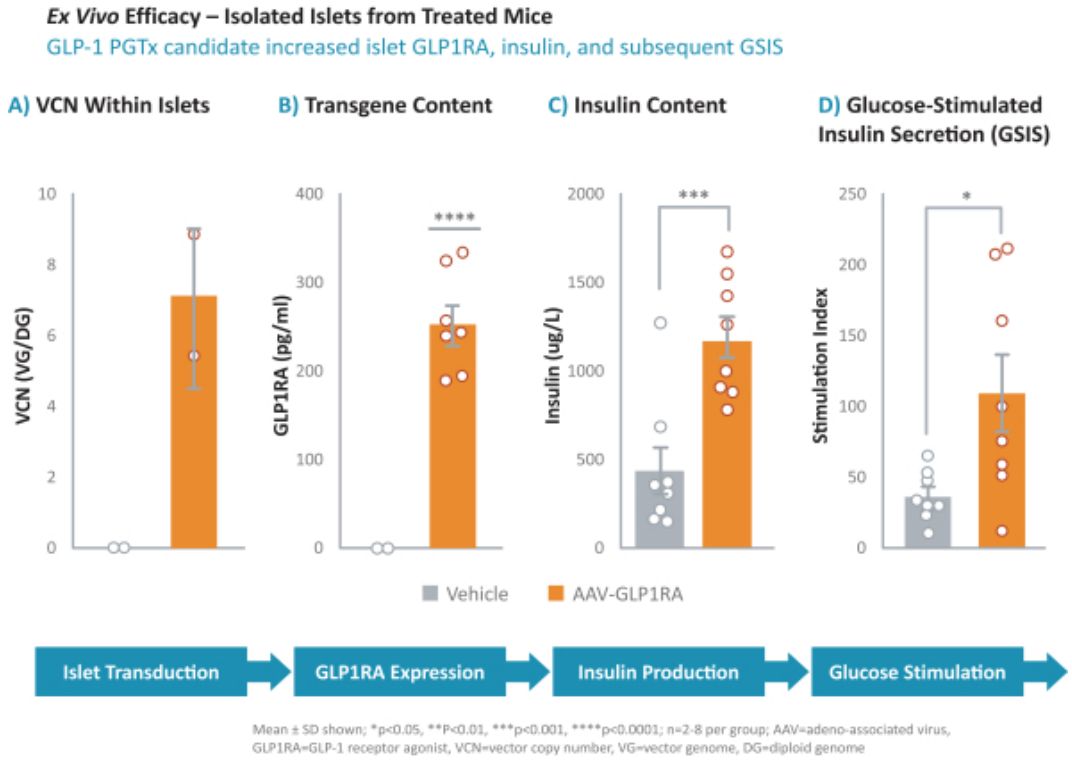
dose of administration. A favorable benefit-risk profile of the device delivery can be enabled by directing the needle toward the body and tail of the pancreas, where a majority of pancreatic islets reside, and by avoiding the pancreatic duct in the head of the pancreas, where the risk of procedural pancreatitis would be higher.

Preclinical Data Overview: Rejuva Gene Therapy Platform

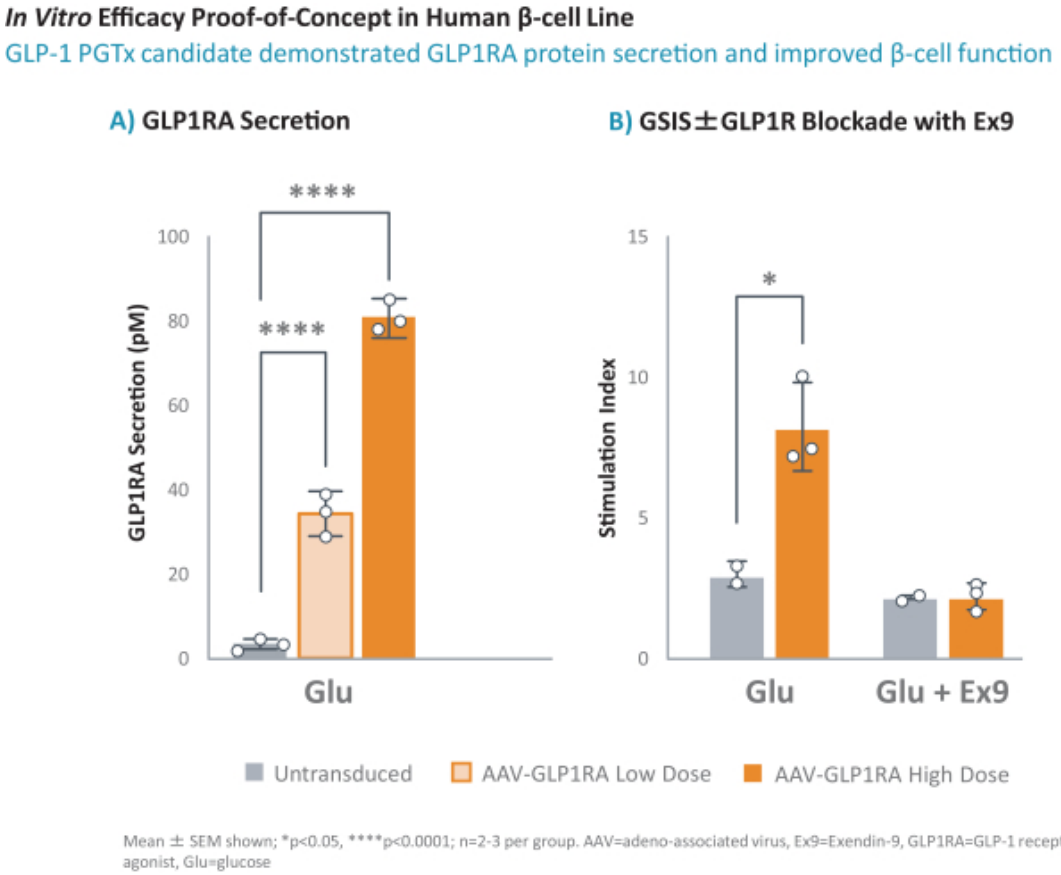
We have evaluated potential GLP-1 PGTx candidates in large and small animal studies. In survival studies in over 50 large animals, we have observed 100% technical success with our Rejuva device using our proposed clinical route of administration with no device-related adverse events observed thus far. In small animal pharmacology studies, we observed that our potential GLP-1 PGTx candidates were generally well tolerated, improved glycemic control, delayed T2D progression and reduced weight compared to vehicle or control and semaglutide. Given the data observed in our preclinical studies thus far, we believe that our Rejuva gene therapy candidates have the ability to provide clinical benefit in T2D and obese patients who currently have limited treatment options that provide long-term benefit even after treatment discontinuation.

Preclinical Studies: Proof-of-Concept

We have conducted multiple proof-of-concept studies with GLP-1 PGTx candidates consisting of AAV-delivered transgenes carrying an insulin promoter driving GLP-1RA sequences in *in vitro*, *ex vivo* human islets, *ex vivo* mouse islets, and *in vivo* survival studies in a *db/db* mouse model of T2D and obesity. In *db/db* mice 10 weeks after a single administration of a GLP-1 PGTx candidate, we observed dose-dependent expression of the GLP-1RA protein in whole pancreas explants and in isolated islets from animals sacrificed at that time point. Isolated pancreatic islets from treated mice grown *ex vivo* demonstrated increased insulin content and improved glucose-stimulated insulin secretion (as depicted in the image below), or GSIS, a hallmark of improved beta cell function.



In the human EndoC-BH5 beta cell line, a GLP-1 PGTx candidate demonstrated dose-dependent increases in GLP-1RA secretion into the cell supernatant and improved GSIS. The improvement in GSIS was blocked by the administration of a GLP-1 receptor antagonist (exendin-9), demonstrating that improvements to beta cell function by the GLP-1 PGTx candidate were achieved through GLP-1 receptor binding and activation (as depicted in the image below).



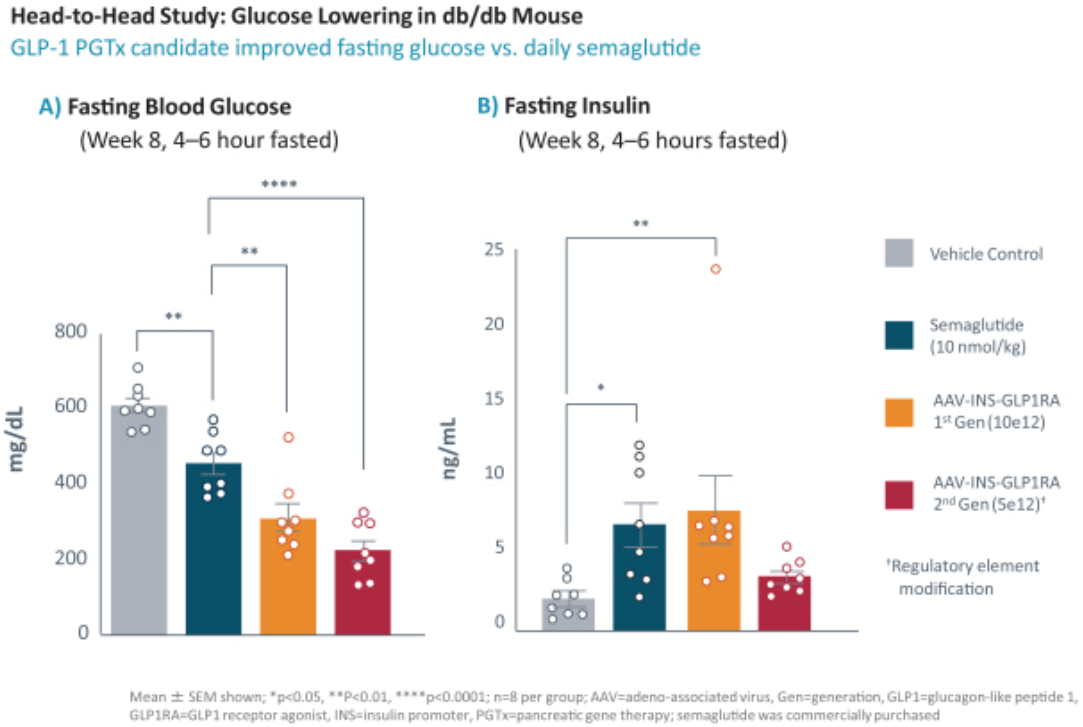
Mean ± SEM shown; *p<0.05, ****p<0.0001; n=2-3 per group. AAV=adeno-associated virus, Ex9=Exendin-9, GLP1RA=GLP-1 receptor agonist, Glu=glucose

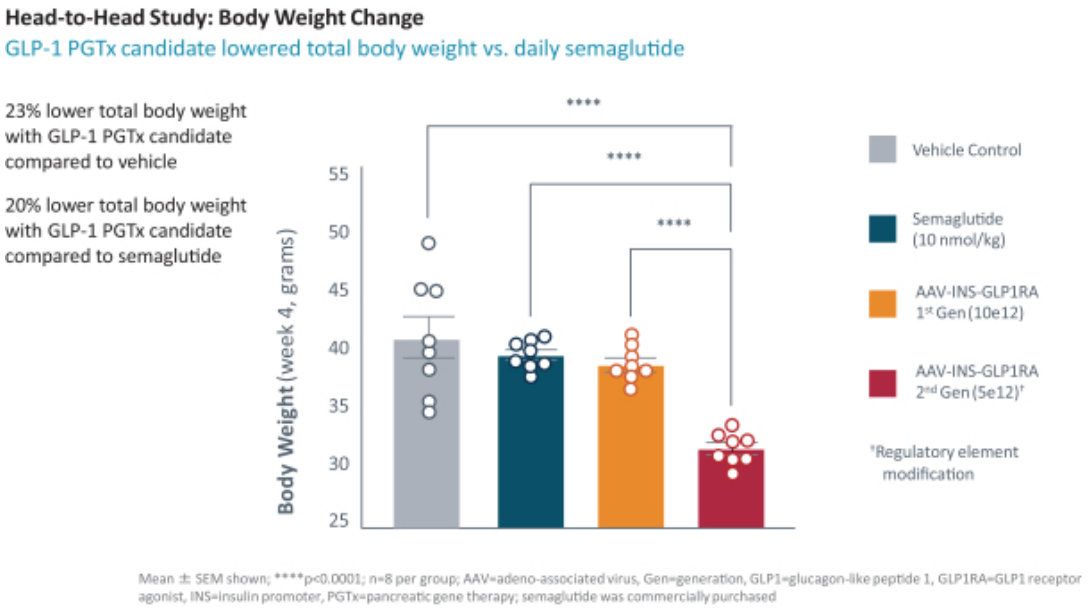
In *ex vivo* human islets, a GLP-1 PGTx candidate demonstrated dose-dependent transduction of up to 25% of beta cells within islets along with a doubling of GSIS. Taken together, we believe the results from EndoC-BH5 and healthy (non-diseased) human islets indicate that GLP-1 PGTx candidates have the potential to successfully transduce human beta cells and improve beta cell function even in healthy, non-diseased islets.

In proof-of concept preclinical *in vivo* studies in a *db/db* mouse model, we evaluated escalating doses of GLP-1 PGTx candidates in glucose lowering potency compared to vehicle. We observed dose-dependent improvements in FPG that were sustained for 64 days after a single administration of a GLP-1 PGTx candidate compared to vehicle control, along with sustained increases in fasting insulin at the same time point. We believe these results indicate that GLP-1 PGTx candidates have the potential to improve glucose control and beta cell insulin production and secretion in a durable manner.

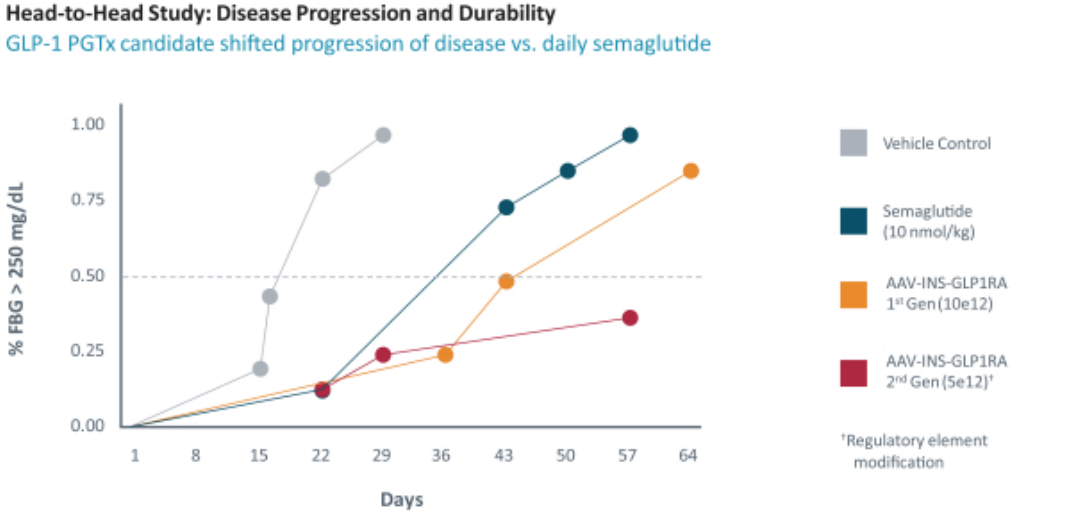
In a head-to-head preclinical *in vivo* study in a *db/db* mouse model, we evaluated two GLP-1 PGTx candidates compared to semaglutide. We observed a statistically significant average reduction of FPG of 50.9% ($p < 0.0001$) at eight weeks, a non-statistically significant decrease in fasting insulin of 48.6% ($p=0.374$) during a

glucose tolerance test at eight weeks and a statistically significant decrease in total body weight of 19.6% ($p < 0.0001$) at four weeks after a single administration of a GLP-1 PGTx candidate compared to semaglutide 10 nmol/kg administered daily. Based on this data, we believe this study suggests that a single administration of a GLP-1 PGTx candidate can achieve greater improvements in blood glucose control and weight loss and delayed T2D progression in *db/db* mice compared to semaglutide (as depicted in the images below).





Mean ± SEM shown; ****p<0.0001; n=8 per group; AAV=adeno-associated virus, Gen=generation, GLP1=glucagon-like peptide 1, GLP1RA=GLP1 receptor agonist, INS=insulin promoter, PGTx=pancreatic gene therapy; semaglutide was commercially purchased

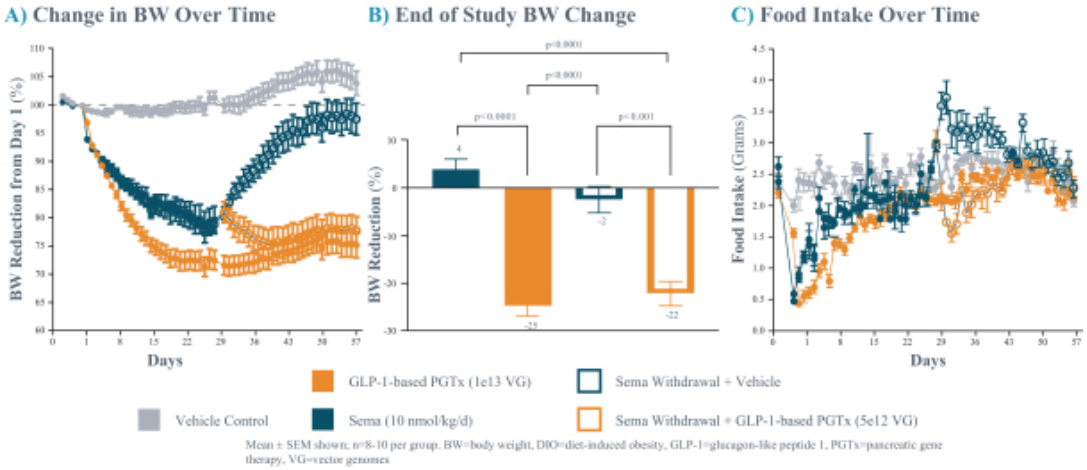


AAV=adeno-associated virus, FBG=fasting blood glucose, Gen=generation, GLP1=glucagon-like peptide 1, GLP1RA=GLP1 receptor agonist, INS=insulin promoter, PGTx=pancreatic gene therapy; semaglutide was commercially purchased

In a head-to-head preclinical *in vivo* study in a diet-induced obesity mouse model, we evaluated weight loss after a single administration of GLP-1 PGTx candidate compared to semaglutide 10 nmol/kg daily. At 28 days after administration, we observed a statistically significant reduction of total body weight of 27% for the GLP-1 PGTx candidate compared to 21% for semaglutide ($p < 0.05$ for the difference between GLP-1 PGTx candidate and semaglutide). Semaglutide-treated animals were then randomized on day 29 to withdrawal of semaglutide or a single administration of the GLP-1 PGTx candidate, and both groups were followed for an additional 4 weeks. On day 57, we observed weight loss of 25% in the obese rodents initially treated with the GLP-1 PGTx candidate, compared to weight gain of 4% in vehicles. Animals withdrawn from semaglutide regained weight to a net 2% body weight loss on day 57, while animals who crossed over from semaglutide to a single dose of the GLP-1 PGTx candidate maintained body weight

loss on day 57 with 22% weight loss from baseline. Based on this data, we believe that a single administration of a GLP-1 PGTx candidate can achieve greater improvements in weight loss than semaglutide at the tested dose, durable improvements in weight loss compared to vehicle control, and can offer a potential weight maintenance therapeutic solution to prevent weight regain after semaglutide discontinuation (as depicted in the image below).

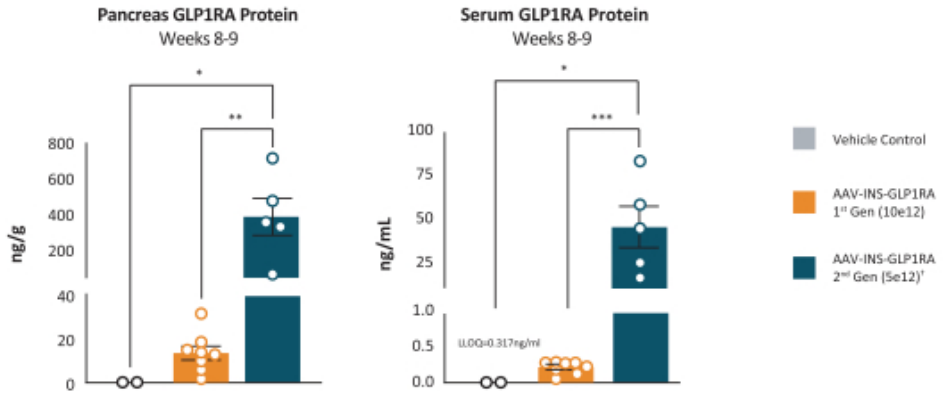
GLP-1 PGTx candidate sustained weight loss after semaglutide withdrawal



In vivo studies of GLP-1 PGTx candidates in *db/db* mice have demonstrated high specificity of transgene expression for the pancreatic islets with no detectable transgene expression in off-target tissues (e.g., the exocrine pancreas). We observed that promoter and regulatory element optimization in GLP-1 PGTx candidates demonstrated the potential for a broad dynamic range of transgene protein production at eight to nine weeks after a single administration of a GLP-1 PGTx candidate (as depicted in the image below). We believe these results indicate that GLP-1 PGTx candidates have the potential to provide durable metabolic benefits after a single administration with limited systemic exposure. No abnormal findings were observed in animal behavior or clinical chemistries. Histopathologic analysis showed no evidence of pancreatitis or pancreatic cancer.

GLP-1 PGTx Candidate Pancreas Protein Expression and Serum Levels

Promoter and regulatory element optimization demonstrated potential for broad dynamic range of transgene protein production



Preclinical Studies: Feasibility and Toxicity

Feasibility and toxicity studies were conducted in Yucatan pigs because their GI and pancreas anatomy is similar to that of humans, enabling a similar route of administration. In preclinical survival studies in Yucatan pigs, we demonstrated the feasibility and technical success of the Rejuva device and proposed clinical route of administration for local delivery of Rejuva PGTx candidates. We evaluated dose-dependent AAV-transgene expression in the pig pancreas by using green fluorescent protein, or GFP, in our AAV vector. At a dose of 1.5×10^{14}, we observed 41.2% islet cell transduction of GFP and a 3.5 vector copy number, or VCN. The FDA recommends that the VCN should be less than five copies per genome.

Biodistribution analysis demonstrated a 5.1x greater VCN in the pancreas as compared to the liver with our proposed clinical route of administration. According to a study done by Li et al., the same viral vector administered intravenously demonstrated a 0.005x VCN in the pancreas as compared to the liver. We believe this reflects a 1000-fold liver de-targeting with our proposed route of administration as compared to intravenous administration.

We observed no evidence of abnormal adverse events to the pancreas, liver or other tissues after administration of a beta-cell restricted Rejuva PGTx candidate.

Clinical Development Overview: Rejuva Gene Therapy Platform

We plan to continue *in vitro* and *in vivo* studies evaluating potential device and gene therapy candidate optimization parameters and route of administration in preclinical safety and efficacy studies on a path toward nominating our first GLP-1 PGTx candidate for T2D in the first quarter of 2024. We plan to initiate IND-enabling studies or its equivalent in the first half of 2024, and we expect to submit an IND or IND-equivalent for our nominated candidate in the second half of 2024.

Commercialization Strategy

We are a commercial-stage company with Revita currently available in Germany. The Revita system is approved in Europe as a medical device under a CE Mark and has received reimbursement authorization in Germany. After securing reimbursement for Revita in the first half of 2023, we initiated a limited commercial pilot in a single center in Dusseldorf, Germany, along with a German Real World Registry, designed to evaluate real-world evidence of Revita's safety and effectiveness in people with inadequately controlled T2D. We elected to launch Revita in Germany only upon first securing reimbursement from statutory health insurers for patients with T2D. We intend to continue to add centers in Germany, focusing on GI endoscopists with a focused interest in metabolic endoscopy and at hospitals that have established reimbursement for Revita with statutory health insurers.

In the United States, we have obtained Breakthrough Device designation from the FDA for the Revita DMR Procedure to improve glycemic control and eliminate insulin needs in T2D patients who are inadequately controlled on long-acting insulin. Breakthrough Device designation provides certain benefits to device developers, including more interactive and timely communications with FDA staff, use of post-market data collection, when scientifically appropriate, to facilitate expedited and efficient development and review of the device, opportunities for efficient and flexible clinical study design, and prioritized review of premarket submissions but does not alter or confer any advantage in the regulatory review or approval standard for medical devices. We intend to submit a PMA for Revita after we complete the Revitalize-1 study, including the follow-up study through 48 weeks, in the first half of 2025. If approved, longer term follow-up studies beyond 48 weeks will likely be performed as part of a post-approval study, or PAS, including potentially studying the safety and effectiveness of repeat procedures, should they be necessary. Based on regulatory precedent, we believe a PAS may be conducted in parallel with the commercial launch of Revita. If approved, we intend to execute a targeted, efficient go-to market strategy for Revita, driven by a stepwise approach that will build brand awareness, position Revita as a novel and generally well tolerated procedural therapy alternative to escalating insulin therapy, and ultimately expand procedure volume as attempt to validate Revita in endocrine and endoscopy communities as a durable and potentially repeatable option for patients with T2D and other metabolic diseases.

As we progress our Revita clinical program and generate clinical evidence in support of Revita, we will invest in building a U.S.-based direct salesforce and medical affairs field team to support our U.S. launch ahead of Revita's potential FDA approval. We will seek to strategically recruit representatives with strong backgrounds and experience in the management of T2D as well as those with a deep understanding of the endoscopist workflow. We expect to grow our field force over time to accelerate broad market adoption of Revita, building on the foundational brand awareness we aim to achieve through our initial educational efforts.

As we generate additional clinical data and insights through our Revita clinical program, we plan to carry out an organized medical education effort to inform endocrinologists around the compelling solution provided by our product candidates, as we believe they will serve as the primary prescribing physicians. We believe that the clinical evidence generated from our program will continue to support our messaging to key leaders in the field of endocrinology and gastroenterology.

If Revita is approved, we intend to commercially launch with the PMA approved console design and plan to submit a supplemental PMA for our next generation commercial console design shortly thereafter. We plan to execute an efficient "hub-and spoke" commercialization strategy to position Revita as a novel procedural therapy to treat T2D and drive its rapid adoption. Leveraging key learnings and insights from our Revita clinical program, we plan to have a targeted sales force initially focusing on centers of excellence with metabolically focused endocrinologists and advanced therapeutic endoscopists. We plan to initially target participating physicians from our clinical studies, as we believe their familiarity with our therapies will make them early adopters. Our multi-channel commercialization strategy will include direct marketing campaigns to raise awareness amongst patients for a compelling new treatment alternative in T2D.

We also plan to roll out a robust procedural training and support program for GI endoscopists, ensuring seamless integration of Revita into their workflow. These education and training efforts will be critical in building an installed base in metabolic endoscopy that will begin with providers at large hospitals and expand to outpatient endoscopy centers over time.

Our initial approach will be to focus on insulin-treated T2D patients, and progress to patients with obesity and earlier indications of T2D. Once we are established in T2D through clinical validation, medical education and training, strong procedure volumes and a robust installed base, we plan to leverage our foundational platform, technology and core capabilities to expand indications to other serious diseases, including CVD, among others.

As we expand the adoption of Revita, we will evaluate potential partnerships and/or distributor relationships for its commercialization in other global geographies. Given the high prevalence and rapidly growing incidence of T2D in certain regions, including Africa, India and China, we believe there is a significant unmet need for a scalable, disease-modifying therapy globally. We plan to pursue regulatory approvals and geographic expansion into additional regions as part of our long-term growth strategy.

Because Rejuva is designed to leverage the same console system, physicians, skill sets and same commercialization footprint of Revita, we believe that a successful launch of Revita will enable a more rapid commercialization of Rejuva into that same channel, if both products are approved in the United States.

Research and Development

We have an experienced research and development team with the scientific, engineering, software, operations and clinical talent that we believe is required to grow our business. We have committed, and expect to continue to commit, significant resources to improve product candidate performance and reliability and reduce costs. As of September 30, 2023, our research and development team was comprised of 72 employees. For the years ended December 31, 2022 and 2021, we incurred research and development expenses of approximately $34.4 million and $26.4 million, respectively. Major components of the research and development expenses included salaries and benefits, clinical study expenses and production related costs.

We continuously seek to improve Revita, the DMR procedure and our Rejuva gene therapy platform, including improvements in our technology and its accessibility. We believe that technical advantage is important to achieve or sustain a competitive advantage, and therefore our research and development efforts are focused on the continued enhancement of Revita, the DMR procedure and Rejuva. We are dedicated to ongoing innovation with respect to Revita, the DMR procedure, Rejuva, and to expanding our pipeline of product candidates and their applications to treat T2D, obesity, and other metabolic diseases.

Competition

The medical device and biopharmaceutical industries are characterized by rapid advancement of novel technologies, significant competition and a strong defense of intellectual property rights. While we believe that our product candidates and scientific expertise provides us with competitive advantages, we face competition from multiple sources, including larger and better-funded medical device and biopharmaceutical companies, academic institutions, lifestyle and diet service centers, hospitals, surgical centers, governmental agencies and public and private research institutions. Any product candidates that we successfully develop and commercialize will compete with currently approved therapies, services and procedures, including lifestyle and diet services, bariatric surgeries, in particular gastric bypass surgeries, and new therapies that may become available in the future. Key factors that would affect our ability to effectively compete with other therapeutics include safety, efficacy, ease of administration, pricing, brand recognition and availability of reimbursement and coverage by third party payors.

There are a number of new classes of agents and combination agents in development for T2D and obesity, such as oral GLP-1s and gene therapies, which may offer evidence of significant glycemic improvement, weight loss and broad metabolic benefit. Pharmaceutical companies are heavily invested in their existing and future product platforms for T2D and obesity. They have strong relationships within the clinical community and with prescribing physicians in particular.

Intellectual Property

Our ability to obtain and maintain intellectual property protection for our product candidates and technology is fundamental to the long-term success of our business. We rely on a combination of intellectual property protection strategies, including patents, trademarks, trade secrets, confidentiality policies and procedures, non-disclosure agreements, invention assignment agreements and technical measures designed to protect the intellectual property and commercially valuable confidential information and data used in our business.

As of September 30, 2023, we own: 21 issued U.S. patents; 26 pending U.S. patent applications; eight pending U.S. provisional patent applications; 2 patent cooperation treaty, or PCT, applications that have not entered national stage; 65 issued foreign patents in Australia, Brazil, Canada, China, Europe, Israel, Japan, Korea, and Russia; and 33 pending foreign patent applications in Australia, Canada, China, Europe, Israel, India, Japan, and Korea. The subject matter covered by our owned patents and patent applications include: Revita and components thereof, methods of using Revita, Rejuva and components thereof, methods of using Rejuva, and other exploratory product candidates. Excluding any possible patent term adjustments or extensions and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees, as applicable: our owned issued U.S. patents are expected to expire between January 2032 and June 2037; our owned issued foreign patents are expected to expire between January 2032 and September 2038; any patents that may issue from our owned pending U.S. patent applications are expected to expire between October 2034 and April 2044; any patents that may issue from our owned pending foreign patent applications or PCT applications are expected to expire between January 2032 and February 2042.

With respect to Revita, as of September 30, 2023, we own: 17 issued U.S. patents; 17 pending U.S. patent applications; one pending U.S. provisional patent application; one PCT application that has not entered national stage;

57 issued foreign patents in Australia, Brazil, Canada, China, Europe, Israel, Japan, Korea, and Russia; and 24 pending foreign patent applications in Australia, Canada, China, Europe, Israel, India, Japan, and Korea. The issued patents and any patents that may issue from our pending patent applications related to Revita are expected to expire between January 2032 and May 2044, excluding any possible patent term adjustments or extensions and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees, as applicable.

With respect to Rejuva, as of September 30, 2023, we own: one pending U.S. patent application; five pending U.S. provisional patent applications; one PCT application that has not entered national stage; and two pending foreign patent applications in Australia and Europe. Any patents that may issue from our pending patent applications related to Rejuva are expected to expire between February 2042 and April 2044, excluding any possible patent term adjustments or extensions and assuming payment of all appropriate maintenance, renewal, annuity or other governmental fees, as applicable.

The term of individual patents depends upon the legal term for patents in the countries in which they are granted. In most countries, including the United States, the patent term is 20 years from the earliest claimed filing date of a non-provisional patent application in the applicable country. In the United States, a patent's term may, in certain cases, be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the USPTO in examining and granting a patent, or may be shortened if a patent is terminally disclaimed over a commonly owned patent or a patent naming a common inventor and having an earlier expiration date. We cannot be sure that our pending patent applications that we have filed or may file in the future will result in issued patents, and we can give no assurance that any patents that have issued or might issue in the future will protect our current or future products, will provide us with any competitive advantage, and will not be challenged, invalidated, or circumvented.

We intend to pursue additional intellectual property protection to the extent we believe it would be beneficial and cost-effective. Our ability to stop third parties from making, using or commercializing any of our patented inventions will depend in part on our success in obtaining, defending and enforcing patent claims that cover our technology, inventions, and improvements. With respect to our owned intellectual property, we cannot provide any assurance that any of our current or future patent applications will result in the issuance of patents in any particular jurisdiction, or that any of our current or future issued patents will effectively protect any of our product candidates or technology from infringement or prevent others from commercializing infringing products or technology.

Our commercial success depends significantly on our ability to operate without infringing, misappropriating or otherwise violating the intellectual property rights of third parties. The medical device industry is subject to rapid technological change and substantial litigation regarding patent and other intellectual property rights. Numerous third-party patents exist in the fields relating to our product candidates, and it is difficult for industry participants, including us, to identify all third-party patent rights relevant to our product candidates and technologies. We are aware of third-party patents, and patent applications that if issued, may be construed to cover our product candidates or technologies, including Revita.

In addition to our reliance on patent protection for our inventions, products and technologies, we also seek to protect our brand through the procurement of trademark rights. As of September 30, 2023, we own 39 registered trademarks and 11 pending trademark applications for FRACTYL, FRACTYL HEALTH, REVITA, REVITA DMR and other product related brand names in the United States and certain foreign jurisdictions. Furthermore, we rely on trade secrets, know-how, unpatented technology and other proprietary information, to strengthen our competitive position. We have determined that certain technologies, including certain aspects of our software, are better kept as trade secrets. To mitigate the chance of trade secret misappropriation, we enter into non-disclosure and confidentiality agreements with parties who have access to our trade secrets, such as our employees, consultants, advisors and other third parties. We also enter into invention assignment agreements with our employees and consultants that obligate them to assign to us any inventions they have developed while working for us. We generally control access to our proprietary and confidential information through the use of internal and external controls that are subject to periodic review.

Although we take steps to protect our proprietary information and trade secrets, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. As a result, we may not be able to meaningfully protect our trade secrets. For further discussion of the risks relating to intellectual property, see the section titled "Risk Factors—Risks Related to Our Intellectual Property."

Manufacturing and Supply

We currently perform final assembly and testing of Revita at our headquarters in Lexington, Massachusetts. We rely upon third-party suppliers for the manufacture of sub-assembly components. We do not have long-term supply agreements with any of our suppliers, some of which are single- or sole-source suppliers. Our purchase order arrangements are terminable at will. We have not yet identified and qualified second-source replacements for many of our critical single-source suppliers. Thus, in the event that our relationship with any of our single- or sole-source suppliers terminates in the future, we may have difficulty maintaining sufficient supplies of key components of our product candidate. Where practicable, we are currently seeking, or intend to seek, second-source manufacturers for our single-source components. We believe that our existing facilities and those of our third-party suppliers are adequate to meet our current manufacturing needs.

Manufacturing facilities that produce medical devices or their component parts are subject to regulation and periodic unannounced inspection by the FDA and other domestic and international regulatory agencies. In the United States, we and some of our sub-assembly component manufacturers will be required to manufacture any products that we sell in compliance with the FDA's Quality System Regulation, or QSR, or the FDA's current good manufacturing practices, or cGMPs, which cover the methods used in, and the facilities used for, the design, testing, control, manufacturing, labeling, quality assurance, packaging, storage and shipping of our product candidates. In international markets, we and some of our sub-assembly component manufacturers are and will be required to obtain and maintain various quality assurance and quality management certifications, and are and will continue to be periodically inspected by international regulatory authorities for certification purposes. We believe our manufacturing operations, and those of our suppliers, are in compliance with applicable regulations of the FDA or other applicable regulatory authorities.

Government Regulation

Our product candidates and our operations are subject to extensive regulation by the FDA and other federal and state authorities in the United States, as well as comparable authorities in foreign jurisdictions. For example, certain of our product candidates are subject to regulation as medical devices in the United States under the Federal Food, Drug, and Cosmetic Act, or FDCA, as implemented and enforced by the FDA, and other product candidates we intend to develop are regulated as biologic-device combination products subject to regulation by the FDA under the FDCA and the Public Health Service Act, or PHSA, and comparable foreign laws and regulations.

United States Regulation of Medical Devices

The FDA regulates the development, design, non-clinical and clinical research, manufacturing, safety, efficacy, labeling, packaging, storage, installation, servicing, recordkeeping, premarket clearance or approval, adverse event reporting, advertising, promotion, marketing and distribution, and import and export of medical devices to ensure that medical devices distributed domestically are safe and effective for their intended uses and otherwise meet the requirements of the FDCA.

FDA Premarket Clearance and Approval Requirements

Unless an exemption applies, each medical device commercially distributed in the United States requires either FDA clearance of a premarket notification submitted under Section 510(k) of the FDCA, classification of FDA's *de novo* classification process or approval of a PMA. Under the FDCA, medical devices

are classified into one of three classes—Class I, Class II or Class III—depending on the degree of risk associated with each medical device and the extent of manufacturer and regulatory control needed to ensure its safety and effectiveness. Class I includes devices with the lowest risk to the patient and are those for which safety and effectiveness can be assured by adherence to the FDA's General Controls for medical devices, which include compliance with the applicable portions of the QSR, establishment registration and device listing, reporting of adverse medical events and certain device malfunctions, known as medical device reporting, or MDR, and truthful and non-misleading labeling, advertising, and promotional materials. Class II devices are subject to the FDA's General Controls, and special controls as deemed necessary by the FDA to ensure the safety and effectiveness of the device. These special controls can include performance standards, post-market surveillance, patient registries and additional labeling requirements.

While most Class I devices are exempt from the 510(k) premarket notification requirement, manufacturers of most Class II devices are required to submit to the FDA a premarket notification under Section 510(k) of the FDCA requesting permission to commercially distribute the device. The FDA's permission to commercially distribute a device subject to a 510(k) premarket notification is generally known as 510(k) clearance. Devices deemed by the FDA to pose the greatest risks, such as life sustaining, life supporting or some implantable devices, or devices that have a new intended use, or use advanced technology that is not substantially equivalent to that of a legally marketed device, are placed in Class III, requiring approval of a PMA. Some pre-amendment devices are unclassified, but are subject to FDA's premarket notification and clearance process in order to be commercially distributed.

510(k) Clearance Marketing Pathway

To obtain 510(k) clearance, the manufacturer must submit to the FDA a premarket notification submission demonstrating that the proposed device is "substantially equivalent" to a legally marketed predicate device. A predicate device is a legally marketed device that is not subject to premarket approval, i.e., a device that was legally marketed prior to May 28, 1976 (pre-amendments device) and for which a PMA is not required, a device that has been reclassified from Class III to Class II or I, or a device that was found substantially equivalent through the 510(k) process. The FDA's 510(k) clearance process usually takes from three to twelve months, but may take longer. The FDA may require additional information, including clinical data, to make a determination regarding substantial equivalence. In addition, FDA collects user fees for certain medical device submissions and annual fees for medical device establishment registration.

If the FDA agrees that the device is substantially equivalent to a predicate device currently on the market, it will grant 510(k) clearance to commercially market the device. If the FDA determines that the device is "not substantially equivalent" to a previously cleared device, the device is automatically designated as a Class III device. The device sponsor must then fulfill more rigorous PMA requirements, or can request a risk-based classification determination for the device in accordance with the "*de novo*" classification process, which is a route to market for novel medical devices that are low to moderate risk and are not substantially equivalent to a predicate device.

After a device receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change or modification in its intended use, will require a new 510(k) clearance or, depending on the modification, PMA approval or grant of a *de novo* request for classification. The FDA requires each manufacturer to determine whether the proposed change requires submission of a 510(k) in the first instance, but the FDA can review any such decision and disagree with a manufacturer's determination. If the FDA disagrees with a manufacturer's determination, the FDA can require the manufacturer to cease marketing and/or request the recall of the modified device until such marketing authorization has been granted. Also, in these circumstances, the manufacturer may be subject to significant regulatory fines or penalties.

Over the last several years, the FDA has proposed reforms to its 510(k) clearance process, and such proposals could include increased requirements for clinical data and a longer review period, or could make it

more difficult for manufacturers to utilize the 510(k) clearance process for their products. For example, in September 2019, the FDA issued revised final guidance describing an optional "safety and performance based" premarket review pathway for manufacturers of "certain, well-understood device types" to demonstrate substantial equivalence under the 510(k) clearance pathway by showing that such device meets objective safety and performance criteria established by the FDA, thereby obviating the need for manufacturers to compare the safety and performance of their medical devices to specific predicate devices in the clearance process. The FDA maintains a list device types appropriate for the "safety and performance based" pathway and continues to develop product-specific guidance documents that identify the performance criteria for each such device type, as well as the testing methods recommended in the guidance documents, where feasible.

PMA Approval Pathway

Revita is a Class III device subject to the requirement for PMA approval. Class III devices require PMA approval before they can be marketed, although some pre-amendment Class III devices for which FDA has not yet required a PMA are cleared through the 510(k) process. The PMA process is more demanding than the 510(k) premarket notification process. In a PMA, the manufacturer must demonstrate that the device is safe and effective, and the PMA must be supported by extensive data, including data from preclinical studies and human clinical trials. The PMA must also contain a full description of the device and its components, a full description of the methods, facilities, and controls used for manufacturing, and proposed labeling. Following receipt of a PMA, the FDA determines whether the application is sufficiently complete to permit a substantive review. If FDA accepts the application for review, it has 180 days under the FDCA to complete its review of a PMA, although in practice, the FDA's review often takes significantly longer, and can take up to several years. An advisory panel of experts from outside the FDA may be convened to review and evaluate the application and provide recommendations to the FDA as to the approvability of the device. The FDA may or may not accept the panel's recommendation. In addition, the FDA will generally conduct a pre-approval inspection of the applicant or its third-party manufacturers' or suppliers' manufacturing facility or facilities to ensure compliance with the QSR, which set forth cGMPs for devices. PMA applications are also subject to the payment of user fees, which are higher than in the 510(k) process.

The FDA will approve the new device for commercial distribution if it determines that the data and information in the PMA constitute valid scientific evidence and that there is reasonable assurance that the device is safe and effective for its intended use(s). The FDA may approve a PMA with post-approval conditions intended to ensure the safety and effectiveness of the device, including, among other things, restrictions on labeling, promotion, sale and distribution, and collection of long-term follow-up data from patients in the clinical study that supported PMA approval or requirements to conduct additional clinical studies post-approval. The FDA may condition PMA approval on some form of post-market surveillance when deemed necessary to protect the public health or to provide additional safety and efficacy data for the device in a larger population or for a longer period of use. In such cases, the manufacturer might be required to follow certain patient groups for a number of years and to make periodic reports to the FDA on the clinical status of those patients. Failure to comply with the conditions of approval can result in material adverse enforcement action, including withdrawal of the approval.

Certain changes to an approved device, such as changes in manufacturing facilities, methods, or quality control procedures, or changes in the design performance specifications, which affect the safety or effectiveness of the device, require submission of a PMA supplement. PMA supplements often require submission of the same type of information as a PMA, except that the supplement is limited to information needed to support any changes from the device covered by the original PMA and may not require as extensive clinical data or the convening of an advisory panel. Certain other changes to an approved device require the submission of a new PMA, such as when the design change causes a different intended use, mode of operation, and technical basis of operation, or when the design change is so significant that a new generation of the device will be developed, and the data that were submitted with the original PMA are not applicable for the change in demonstrating a reasonable assurance of safety and effectiveness. None of our medical device products have been approved through the PMA process.

Clinical Trials

Clinical trials are almost always required to support a PMA and *de novo* request for classification, and are sometimes required to support a 510(k) submission. All clinical investigations of devices to determine safety and effectiveness must be conducted in accordance with the FDA's IDE regulations which govern investigational device labeling, prohibit promotion of the investigational device, and specify an array of recordkeeping, reporting and monitoring responsibilities of study sponsors and study investigators. If the device presents a "significant risk" to human health, as defined by the FDA, the FDA requires the device sponsor to submit an IDE application to the FDA, which must become effective prior to commencing human clinical trials. If the device under evaluation does not present a significant risk to human health, then the device sponsor is not required to submit an IDE application to the FDA before initiating human clinical trials, but must still comply with abbreviated IDE requirements when conducting such trials. A significant risk device is one that presents a potential for serious risk to the health, safety or welfare of a patient and either is implanted, used in supporting or sustaining human life, substantially important in diagnosing, curing, mitigating or treating disease or otherwise preventing impairment of human health, or otherwise presents a potential for serious risk to a subject. An IDE application must be supported by appropriate data, such as animal and laboratory test results, showing that it is safe to test the device in humans and that the testing protocol is scientifically sound. The IDE will automatically become effective 30 days after receipt by the FDA unless the FDA notifies the company that the investigation may not begin. If the FDA determines that there are deficiencies or other concerns with an IDE for which it requires modification, the FDA may permit a clinical trial to proceed under a conditional approval.

Regardless of the degree of risk presented by the medical device, clinical studies must be approved by, and conducted under the oversight of, an Institutional Review Board, or IRB, for each clinical site. The IRB is responsible for the initial and continuing review of the IDE, and may impose additional requirements for the conduct of the study. If an IDE application is approved by the FDA and one or more IRBs, human clinical trials may begin at a specific number of investigational sites with a specific number of patients, as approved by the FDA. If the device presents a non-significant risk to the patient, a sponsor may begin the clinical trial after obtaining approval for the trial by one or more IRBs without separate approval from the FDA, but must still follow abbreviated IDE requirements, such as monitoring the investigation, ensuring that the investigators obtain informed consent, and complying with labeling and record-keeping requirements. In some cases, an IDE supplement must be submitted to, and approved by, the FDA before a sponsor or investigator may make a change to the investigational plan that may affect its scientific soundness, study plan or the rights, safety or welfare of human subjects.

During a study, the sponsor is required to comply with the applicable FDA requirements, including, for example, trial monitoring, selecting clinical investigators and providing them with the investigational plan, ensuring IRB review, adverse event reporting, record keeping and prohibitions on the promotion of investigational devices or on making safety or effectiveness claims for them. The clinical investigators in the clinical study are also subject to FDA's regulations and must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of the investigational device, and comply with all reporting and recordkeeping requirements. Additionally, after a trial begins, the sponsor, the FDA or the IRB could suspend or terminate a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the anticipated benefits.

Expedited Development and Review Programs

Following passage of the 21st Century Cures Act, the FDA implemented the Breakthrough Devices Program, which is a voluntary program offered to manufacturers of certain medical devices and device-led combination products that may provide for more effective treatment or diagnosis of life-threatening or irreversibly debilitating diseases or conditions. The goal of the program is to provide patients and health care providers with more timely access to qualifying devices by expediting their development, assessment and review, while preserving the statutory standards for PMA approval, 510(k) clearance and de novo classification.

The program is available to medical devices that meet certain eligibility criteria, including that the device provides more effective treatment or diagnosis of life-threatening or irreversibly debilitating diseases or conditions, and that the device meets one of the following criteria: (i) the device represents a breakthrough technology, (ii) no approved or cleared alternatives exist, (iii) the device offers significant advantages over existing approved or cleared alternatives, or (iv) the availability of the device is in the best interest of patients. Breakthrough Device designation provides certain benefits to device developers, including more interactive and timely communications with FDA staff, use of postmarket data collection, when scientifically appropriate, to facilitate expedited and efficient development and review of the device, opportunities for efficient and flexible clinical study design, and prioritized review of premarket submissions.

Post-Market Regulation of Medical Devices

After a product is placed on the market, numerous regulatory requirements continue to apply. These relate to:

- device listing and establishment registration, which helps facilitate FDA inspections and other regulatory action;
- the QSR, which requires manufacturers, including third-party manufacturers, to follow stringent design, validation, testing, control, documentation and other quality assurance procedures during all aspects of the design and manufacturing process;
- labeling regulations, including regulations pertaining to Unique Device Identification, and FDA prohibitions against the promotion of products for uncleared or unapproved use or indication;
- clearance of product modifications for 510(k)-cleared products that could significantly affect safety or effectiveness or that would constitute a major change in intended use or approval of supplemental PMAs for certain changes to an approved device;
- compliance with MDR regulations, which require that a manufacturer report to the FDA if a device it markets may have caused or contributed to a death or serious injury, or has malfunctioned and the device or a similar device that it markets would be likely to cause or contribute to a death or serious injury, if the malfunction were to recur;
- correction and removal reporting regulations, which require that manufacturers report to the FDA certain corrections and removals;
- post-market restrictions or conditions, including post-market study commitments;
- post-market surveillance regulations, which apply, when necessary, to protect the public health or to provide additional safety and effectiveness data for the medical product;
- the FDA's recall authority, whereby it can ask, or under certain conditions order, device manufacturers to recall from the market a product that is in violation of governing laws and regulations; and
- regulations pertaining to voluntary recalls.

Manufacturing processes for medical devices are required to comply with the applicable portions of the QSR, which cover the methods and the facilities and controls for the design, manufacture, testing, production, processes, controls, quality assurance, labeling, packaging, distribution, installation and servicing of finished devices intended for human use. The QSR also requires, among other things, maintenance of a device master file, device history file, and complaint files. As a manufacturer, we are subject to periodic scheduled and unscheduled inspections by the FDA.

Failure to maintain compliance with the QSR requirements could result in the shut-down of, or restrictions on, manufacturing operations and the recall or seizure of marketed products. The discovery of previously unknown problems with any marketed products, including unanticipated adverse events or adverse events of increasing severity or frequency, whether resulting from the use of the device within the scope of its clearance or approval, or off-label by a physician in the practice of medicine, could result in restrictions on the device, including the removal of the product from the market or voluntary or mandatory device recalls.

The FDA has broad regulatory compliance and enforcement powers. If the FDA determines that a manufacturer has failed to comply with applicable regulatory requirements, it can take a variety of compliance or enforcement actions, which may result in any of the following sanctions:

- warning letters, untitled letters, fines, injunctions, consent decrees and civil penalties;
- recalls, withdrawals, or administrative detention or seizure of our products, when and if approved;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying requests for 510(k) clearance, *de novo* classification or PMA approvals of new products or modified products;
- withdrawing PMA approvals that have already been granted;
- refusal to grant export approvals for our products, when and if approved; or
- criminal prosecution.

Advertising and promotion of medical devices, in addition to being regulated by the FDA, are also regulated by the Federal Trade Commission and by state regulatory and enforcement authorities. Promotional activities for FDA-regulated products of other companies have been the subject of enforcement action brought under healthcare reimbursement laws and consumer protection statutes.

Furthermore, under the federal U.S. Lanham Act and similar state laws, competitors and others can initiate litigation relating to advertising claims. In addition, we are required to meet regulatory requirements in countries outside the United States, which can change rapidly with relatively short notice.

United States Regulation of Biologics and Combination Biologic/Device Products

In the United States, biological products, or biologics, such as those gene therapy candidates we intend to develop through our proprietary Rejuva gene therapy platform, are subject to regulation under the FDCA, PHSA, and other federal, state, local and foreign statutes and regulations.

Combination Biologic/Device Products

We expect our gene therapy candidates developed through our Rejuva gene therapy platform to be subject to regulation in the United States as combination products comprised of a biologic product candidate and a device delivery system. A combination product is the combination of two or more regulated components, such as biologic/device, that are combined or mixed and produced as a single entity, packaged together in a single package or as a unit or a biologic or device packaged separately that according to its investigational plan or proposed labeling is intended for use only with an approved individually specified biologic or device where both are required to achieve the intended use, indication or effect. If marketed individually, each component would be subject to different regulatory pathways and would require approval of independent marketing applications by the FDA – one for the device component and one for the biologic component of the combination.

A combination product, however, is assigned to a center within FDA that will have primary jurisdiction over its regulation based on a determination of the combination product's primary mode of action, which is the single mode of action that provides the most important therapeutic action. To determine which FDA center or centers will review a combination product candidate submission, companies may submit a request for assignment to the FDA. Those requests may be handled formally or informally. In some cases, jurisdiction may be determined informally based on FDA experience with similar products. However, informal jurisdictional determinations are not binding on the FDA. Companies also may submit a formal Request for Designation to the FDA Office of Combination Products. The Office of Combination Products will review the request and make its jurisdictional determination within 60 days of receiving a Request for Designation.

In the case of our Rejuva gene therapy candidates, we believe that the primary mode of action will be attributable to the biologic component of the combination product. We therefore would expect to seek approval of any such combination biologic/device product candidate through a single Biologics License Application, or BLA, and we do not expect that the FDA will require a separate marketing authorization for the device component.

U.S. Biologics Regulation

The process required by the FDA before biologics may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests and animal studies performed in accordance with the FDA's Good Laboratory Practice requirements, or GLPs;
- submission to the FDA of an IND, which must become effective before clinical trials may begin;
- approval by an IRB or ethics committee at each clinical site before the trial is commenced;
- performance of adequate and well-controlled human clinical trials to establish the safety, purity and potency of the proposed biologic product candidate for its intended use in accordance with good clinical practice requirements, or GCPs;
- preparation of and submission to the FDA of a BLA, after completion of all pivotal clinical trials and other necessary studies;
- satisfactory completion of an FDA advisory committee review, if applicable;
- a determination by the FDA within 60 days of its receipt of a BLA to file the application for review;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities at which the proposed product is produced to assess compliance with cGMPs (including the QSR in the case of the device component of any biologic/device combination product), and to assure that the facilities, methods and controls are adequate to preserve the biological product's continued safety, purity and potency, and of selected clinical investigation sites to assess compliance with GCPs; and
- FDA review and approval of the BLA to permit commercial marketing of the product for particular indications for use in the United States.

The preclinical developmental stage generally involves laboratory evaluations of chemistry, formulation and stability, as well as studies to evaluate the product candidate's toxicity in animals, in an effort to support subsequent clinical testing. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations.

Prior to beginning the first clinical trial with a product candidate in the United States, the trial sponsor must submit an IND to the FDA. The central focus of an IND submission is on the general investigational plan and the protocol(s) for clinical studies. The IND also includes results of animal and in vitro studies assessing the toxicology, pharmacokinetics, pharmacology, and pharmacodynamic characteristics of the product candidate, chemistry, manufacturing, and controls information, and any available human data or literature to support the use of the product candidate. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, raises safety concerns or questions about the proposed clinical trial. In such a case, the IND may be placed on clinical hold and the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

In addition to the IND submission process, under the National Institutes of Health, or NIH, Guidelines for Research Involving Recombinant DNA Molecules, or the NIH Guidelines, supervision of human gene transfer trials includes evaluation and assessment by an institutional biosafety committee, or IBC, a local institutional committee that reviews and oversees research utilizing recombinant or synthetic nucleic acid molecules at that institution. The IBC assesses the safety of the research and identifies any potential risk to public health or the environment, and such review may result in some delay before initiation of a clinical trial. While the NIH Guidelines are not mandatory unless the research in question is being conducted at or sponsored by institutions receiving NIH funding of recombinant or synthetic nucleic acid molecule research, many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control, in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical study. Clinical trials are conducted under protocols detailing, among other things, the objectives of the study, the parameters to be used in monitoring subject safety and the effectiveness criteria to be evaluated. A separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments.

Furthermore, an independent IRB for each site proposing to conduct the clinical trial must review and approve the plan for any clinical trial and its informed consent form before the clinical trial begins at that site, and must monitor the study until completed. Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. Some studies also include oversight by an independent group of qualified experts organized by the clinical study sponsor, known as a data safety monitoring board, which provides authorization for whether or not a study may move forward at designated check points based on access to certain data from the study, and may halt the clinical trial if it determines that there is an unacceptable safety risk for subjects or other grounds, such as no demonstration of efficacy. There are also requirements governing the reporting of ongoing clinical studies and clinical study results to public registries, including clinicaltrials.gov.

For purposes of BLA approval, human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1—The investigational product is initially introduced into healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on effectiveness.

- Phase 2—The investigational product is administered to a limited patient population with a specified disease or condition to evaluate the preliminary efficacy, optimal dosages and dosing

schedule and to identify possible adverse side effects and safety risks. Multiple Phase 2 clinical trials may be conducted to obtain information prior to beginning larger and more expensive Phase 3 clinical trials.

- Phase 3—The investigational product is administered to an expanded patient population to further evaluate dosage, to provide substantial evidence of clinical efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk/benefit ratio of the investigational product and to provide an adequate basis for product approval.

In some cases, the FDA may require, or sponsors may voluntarily pursue, additional clinical trials after a product is approved to gain more information about the product. These so-called Phase 4 studies may also be made a condition to approval of the BLA.

While the IND is active, progress reports summarizing the results of the clinical trials and nonclinical studies performed since the last progress report, among other information, must be submitted at least annually to the FDA, and written IND safety reports must be submitted to the FDA and investigators for serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the same or similar drugs, findings from animal or in vitro testing suggesting a significant risk to humans, and any clinically important increased incidence of a serious suspected adverse reaction compared to that listed in the protocol or investigator brochure.

In addition, during the development of a new biologic, sponsors are given opportunities to meet with the FDA at certain points, including prior to submission of an IND, at the end of Phase 2, and before a BLA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice, and for the sponsor and the FDA to reach alignment on the next phase of development. Sponsors typically use the meetings at the end of the Phase 2 trial to discuss Phase 2 clinical results and present plans for the pivotal Phase 3 clinical trials that they believe will support approval of the product candidate.

Concurrent with clinical trials, companies may complete additional animal studies and develop additional information about the biological characteristics of the product candidate, and must finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

BLA Submission and Review by the FDA

Assuming successful completion of all required testing in accordance with all applicable regulatory requirements, the results of product development, preclinical studies and clinical trials are submitted to the FDA as part of a BLA requesting approval to market the product candidate for one or more indications. The BLA must include all relevant data available from preclinical and clinical studies, including negative or ambiguous results as well as positive findings, together with detailed information relating to the product's chemistry, manufacturing, controls, and proposed labeling, among other things. Data can come from company-sponsored clinical studies intended to test the safety and effectiveness of a use of the product candidate, or from a number of alternative sources, including studies initiated by independent investigators. The submission of a BLA requires payment of a substantial application user fee to the FDA, unless a waiver or exemption applies.

Within 60 days following submission of the application, the FDA reviews a BLA submitted to determine if it is substantially complete before the FDA accepts it for filing. The FDA may refuse to file any

BLA that it deems incomplete or not properly reviewable at the time of submission and may request additional information. In this event, the BLA must be resubmitted with the additional information. Once a BLA has been accepted for filing, the FDA's goal is to review standard applications within ten months after the filing date, or, if the application qualifies for priority review, six months after the FDA accepts the application for filing. In both standard and priority reviews, the review process may also be extended by FDA requests for additional information or clarification. The FDA reviews a BLA to determine, among other things, whether the product candidate is safe, pure and potent for the proposed indication, and the facility in which it is manufactured, processed, packed or held meets standards designed to assure the product's continued safety, purity and potency. The FDA may also convene an advisory committee to provide clinical insight on application review questions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving a BLA, the FDA will typically inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP and adequate to assure consistent production of the product within required specifications. Additionally, before approving a BLA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP. If the FDA determines that the application, manufacturing process or manufacturing facilities are not acceptable, it will outline the deficiencies in the submission and often will request additional testing or information. Notwithstanding the submission of any requested additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

After the FDA evaluates a BLA and conducts inspections of manufacturing facilities where the investigational product and/or its drug substance will be produced, the FDA may issue an approval letter or a Complete Response Letter, or CRL. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A CRL will describe all of the deficiencies that the FDA has identified in the BLA, except that where the FDA determines that the data supporting the application are inadequate to support approval, the FDA may issue the CRL without first conducting required inspections, testing submitted product lots, and/or reviewing proposed labeling. In issuing the CRL, the FDA may recommend actions that the applicant might take to place the BLA in condition for approval, including requests for additional information or clarification. The FDA may delay or refuse approval of a BLA if applicable regulatory criteria are not satisfied, require additional testing or information and/or require post-marketing testing and surveillance to monitor safety or efficacy of a product.

If regulatory approval of a product is granted, such approval will be granted for particular indications and may include limitations on the indicated uses for which such product may be marketed. For example, the FDA may approve the BLA with a Risk Evaluation and Mitigation Strategy, or REMS, to ensure the benefits of the product outweigh its risks. A REMS is a safety strategy implemented to manage a known or potential serious risk associated with a product and to enable patients to have continued access to such medicines by managing their safe use, and could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. The FDA also may condition approval on, among other things, changes to proposed labeling or the development of adequate controls and specifications. Once a BLA is approved, the FDA may withdraw such approval if compliance with pre-and post-marketing requirements is not maintained or if problems occur after the product reaches the marketplace. The FDA may require one or more Phase 4 post-market studies and surveillance to further assess and monitor the product's safety, purity and potency after commercialization, and may limit further marketing of the product based on the results of these post-marketing studies.

Expedited Development and Review Programs

The FDA offers a number of expedited development and review programs for qualifying product candidates. For example, the fast track program is intended to expedite or facilitate the process for developing

and reviewing product candidates that are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast track designation applies to the combination of the product candidate and the specific indication for which it is being studied. The sponsor of a fast track-designated product candidate has opportunities for more frequent interactions with the applicable FDA review team during product development and, once a BLA is submitted, the product candidate may be eligible for priority review. A fast track-designated product candidate may also be eligible for rolling review, where the FDA may consider for review sections of the BLA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the BLA, the FDA agrees to accept sections of the BLA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the BLA.

A product candidate intended to treat a serious or life-threatening disease or condition may also be eligible for breakthrough therapy designation to expedite its development and review. A product candidate can receive breakthrough therapy designation if preliminary clinical evidence indicates that the product candidate, alone or in combination with one or more other drugs or biologics, may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the fast track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product candidate, including involvement of senior managers.

Any marketing application for a biologic product candidate submitted to the FDA for approval, including a product candidate with a fast track designation and/or breakthrough therapy designation, may be eligible for other types of FDA programs intended to expedite the FDA review and approval process, such as priority review and accelerated approval. A BLA is eligible for priority review if the product candidate is designed to treat a serious or life-threatening disease or condition, and if approved, would provide a significant improvement in safety or effectiveness compared to available alternatives for such disease or condition. For original BLAs, priority review designation means the FDA's goal is to take action on the marketing application within six months of the 60-day filing date (as compared to ten months under standard review).

Additionally, product candidates studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may receive accelerated approval upon a determination that the product candidate has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of accelerated approval, the FDA will generally require the sponsor to perform adequate and well-controlled post-marketing clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefit. Under the Food and Drug Omnibus Reform Act of 2022, or the FDORA, the FDA may require, as appropriate, that such studies be underway prior to approval or within a specific time period after the date of approval for a product granted accelerated approval. Under the FDORA, the FDA has increased authority for expedited procedures to withdraw approval of the product receiving accelerated approval if the sponsor fails to conduct the required post-marketing studies or if such studies fail to verify the predicted clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Fast track designation, breakthrough therapy designation, priority review, and accelerated approval do not change the standards for approval but may expedite the development or approval process. Even if a product candidate qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

Post-Approval Requirements

Biologics are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual program fees for any marketed products. Biologic manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP, which impose certain procedural and documentation requirements upon them. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved label to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters, or untitled letters;
- clinical holds on clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products;
- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- mandated modification of promotional materials and labeling and the issuance of corrective information;
- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of biologics. A company can make only those claims that are in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe legally available products for

uses that are not described in the product's labeling and that differ from those tested and approved by the FDA. Such off-label uses are common across medical specialties. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict a manufacturer's communications on the subject of off-label use of their products.

Biosimilars and Reference Product Exclusivity

The Affordable Care Act, signed into law in 2010, includes a subtitle called the Biologics Price Competition and Innovation Act, or BPCIA, which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product.

Biosimilarity, which requires that the biological product be highly similar to the reference product notwithstanding minor differences in clinically inactive components and that there be no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical study or studies. Interchangeability requires that a product is biosimilar to the reference product and the product can be expected to produce the same clinical results as the reference product in any given patient and, for products that are administered multiple times to an individual, the biologic and the reference biologic may be alternated or switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biologic.

Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing that applicant's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of its product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. Whether products deemed "interchangeable" by the FDA are readily substituted by pharmacies is governed by state pharmacy law.

A biological product can also obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection or patent term, may be granted based on the voluntary completion of a pediatric study in accordance with an FDA-issued "Written Request" for such a study.

Foreign Government Regulation

In addition to U.S. regulations, we are subject to a variety of foreign government regulations applicable to medical devices, medicinal products and combination products.

Regulation of Medical Devices in the European Union

The EU has adopted specific directives and regulations regulating the design, manufacture, clinical investigation, conformity assessment, labeling and adverse event reporting for medical devices.

Until May 25, 2021, medical devices were regulated by the Council Directive 93/42/EEC or Medical Devices Directive, which has been repealed and replaced by Regulation (EU) No 2017/745, or Medical Devices Regulation. Our current certificates have been granted and renewed under the Medical Devices Directive whose regime is described below. However, as of May 26, 2021, some of the Medical Devices Regulation requirements apply in place of the corresponding requirements of the Medical Devices Directive. Pursuing marketing of

medical devices in the EU will notably require that our devices be certified under the new regime set forth in the Medical Devices Regulation.

Medical Devices Directive

Under the Medical Devices Directive, all medical devices placed on the market in the EU must meet the relevant essential requirements laid down in Annex I to the Medical Devices Directive, including the requirement that a medical device must be designed and manufactured in such a way that it will not compromise the clinical condition or safety of patients, or the safety and health of users and others. In addition, the device must achieve the performance intended by the manufacturer and be designed, manufactured, and packaged in a suitable manner. The European Commission has adopted various standards applicable to medical devices. These include standards governing common requirements, such as sterilization and safety of medical electrical equipment and product standards for certain types of medical devices. There are also harmonized standards relating to design and manufacture. While not mandatory, compliance with these standards is viewed as the easiest way to satisfy the essential requirements as a practical matter as it creates a rebuttable presumption that the device satisfies that essential requirement.

To demonstrate compliance with the essential requirements laid down in Annex I to the Medical Devices Directive, medical device manufacturers must undergo a conformity assessment procedure, which varies according to the type of medical device and its (risk) classification. As a general rule, demonstration of conformity of medical devices and their manufacturers with the essential requirements must be based, among other things, on the evaluation of clinical data supporting the safety and performance of the products during normal conditions of use. Specifically, a manufacturer must demonstrate that the device achieves its intended performance during normal conditions of use, that the known and foreseeable risks, and any adverse events, are minimized and acceptable when weighed against the benefits of its intended performance, and that any claims made about the performance and safety of the device are supported by suitable evidence. Except for low-risk medical devices (Class I non-sterile, non-measuring devices), where the manufacturer can self-declare the conformity of its products with the essential requirements (except for any parts which relate to sterility or metrology), a conformity assessment procedure requires the intervention of a notified body. Notified bodies are independent organizations designated by EU member states to assess the conformity of devices before being placed on the market. A notified body would typically audit and examine a product's technical dossiers and the manufacturer's quality system (the notified body must presume that quality systems which implement the relevant harmonized standards – which is ISO 13485:2016 for Medical Devices Quality Management Systems – conform to these requirements). If satisfied that the relevant product conforms to the relevant essential requirements, the notified body issues an EC certificate, which the manufacturer uses as a basis for its own declaration of conformity. The manufacturer may then apply the CE Mark to the device, which allows the device to be placed on the market throughout the EU.

Throughout the term of the EC certificate, the manufacturer will be subject to periodic surveillance audits to verify continued compliance with the applicable requirements. In particular, there will be a new audit by the notified body before it will renew the relevant certificate(s).

Medical Devices Regulation

The regulatory landscape related to medical devices in the EU recently evolved. On April 5, 2017, the Medical Devices Regulation was adopted with the aim of ensuring better protection of public health and patient safety. The Medical Devices Regulation, among other things, establishes a uniform, transparent, predictable and sustainable regulatory framework across the EU for medical devices and ensures a high level of safety and health while supporting innovation. Unlike the Medical Devices Directive, the Medical Devices Regulation is directly applicable in EU member states without the need for member states to implement into national law. This aims at increasing harmonization across the EU.

The Medical Devices Regulation became effective on May 26, 2021. In accordance with its recently extended transitional provisions, both (i) devices lawfully placed on the market pursuant to the Medical Devices Directive prior to May 26, 2021 and (ii) legacy devices lawfully placed on the market after May 26, 2021 in accordance with the transitional provisions of the Medical Devices Regulation may generally continue to be made available on the market or put into service, provided that the requirements of the transitional provisions are fulfilled (as detailed below). Pursuing marketing of medical devices in the EU will notably require that all our devices be certified under the new regime set forth in the Medical Devices Regulation. Regardless of whether we have already obtained certification under the Medical Devices Regulation, since May 26, 2021, the Medical Devices Regulation requirements apply in place of the corresponding requirements of the Medical Devices Directive with regard to registration of economic operators and of devices, post-market surveillance and vigilance requirements (as detailed below).

The Medical Devices Regulation requires that before placing a device, other than a custom-made device, on the market, manufacturers (as well as other economic operators such as authorized representatives and importers) must register by submitting identification information to the electronic system (EUDAMED), unless they have already registered. The information to be submitted by manufacturers (and authorized representatives) also includes the name, address and contact details of the person or persons responsible for regulatory compliance. The Medical Devices Regulation also requires that before placing a device, other than a custom-made device, on the market, manufacturers must assign a unique identifier to the device and provide it along with other core data to the unique device identifier, or UDI, database. These new requirements aim at ensuring better identification and traceability of the devices. Each device – and as applicable, each package – will have a UDI composed of two parts: a device identifier, or UDI-DI, specific to the manufacturer and the device, and a production identifier, or UDI-PI, to identify the unit of device production. Manufacturers are also notably responsible for entering the necessary data on EUDAMED, which includes the UDI database, and for keeping it up to date. EUDAMED is not yet fully functional.

All manufacturers placing medical devices on the market in the EU must comply with the EU medical device vigilance system which has been reinforced by the Medical Devices Regulation. Under this system, serious incidents and Field Safety Corrective Actions, or FSCAs must be reported to the relevant authorities of the EU member states. These reports will have to be submitted through EUDAMED – once functional – and aim to ensure that, in addition to reporting to the relevant authorities of the EU member states, other actors such as the economic operators in the supply chain will also be informed. Until EUDAMED is fully functional, the corresponding provisions of the Medical Devices Directive continue to apply. Manufacturers are required to take FSCAs, which are defined as any corrective action for technical or medical reasons to prevent or reduce a risk of a serious incident associated with the use of a medical device that is made available on the market. A serious incident is any malfunction or deterioration in the characteristics or performance of a device on the market (e.g., inadequacy in the information supplied by the manufacturer, undesirable side-effect), which, might lead to either the death or serious deterioration of the health of a patient, user, or other persons, or to a serious public health threat. An FSCA may include the recall, modification, exchange, destruction or retrofitting of the device. FSCAs must be communicated by the manufacturer or its legal representative to its customers and/or to the end users of the device through Field Safety Notices. For similar serious incidents that occur with the same device or device type and for which the root cause has been identified or a FSCA implemented or where the incidents are common and well documented, manufacturers may provide periodic summary reports instead of individual serious incident reports.

Among the new requirements, manufacturers (and authorized representatives) must have available within their organization at least one person responsible for regulatory compliance, or PRRC, who possesses the requisite expertise in the field of medical devices. The PRRC is notably responsible for compliance with post-market surveillance and vigilance requirements.

The advertising and promotion of medical devices is subject to some general principles set forth in EU legislation. According to the Medical Devices Regulation, only devices that are CE marked may be marketed and advertised in the EU in accordance with their intended purpose. Directive 2006/114/EC concerning misleading

and comparative advertising and Directive 2005/29/EC on unfair commercial practices, while not specific to the advertising of medical devices, also apply to the advertising thereof and contain general rules, for example, requiring that advertisements are evidenced, balanced and not misleading. Specific requirements are defined at a national level. EU member states' laws related to the advertising and promotion of medical devices, which vary between jurisdictions, may limit or restrict the advertising and promotion of products to the general public and may impose limitations on promotional activities with healthcare professionals.

The aforementioned EU rules are generally applicable in the European Economic Area, or EEA, which consists of the 27 EU Member States plus Norway, Liechtenstein and Iceland.

Brexit

From January 1, 2021 onwards, the Medicines and Healthcare Products Regulatory Agency, or MHRA, has been the sovereign regulatory authority responsible for the Great Britain (i.e. England, Wales and Scotland) medical device market according to the requirements provided in the Medical Devices Regulations 2002 (SI 2002 No 618, as amended) that sought to give effect to the three pre-existing EU directives governing active implantable medical devices, general medical devices and in vitro diagnostic medical devices whereas, broadly, Northern Ireland continues to be governed by EU rules according to the Northern Ireland Protocol. Following the end of the Brexit transitional period on January 1, 2021, new regulations require medical devices to be registered with the MHRA before being placed on the Great Britain market. The MHRA will only register devices where the manufacturer or their United Kingdom, or the UK, Responsible Person has a registered place of business in the UK. Manufacturers based outside the UK need to appoint a UK Responsible Person that has a registered place of business in the UK to register devices with the MHRA. Following a public consultation on proposed changes to the UK's medical device regulations, the response to which was published on June 26, 2022, the MHRA confirmed that it would bring about changes to the current regulations applicable in Great Britain. It is anticipated that the core aspects of the future regime will now apply from July 1, 2025 so that medical devices placed on the market in Great Britain will require a UK Conformity Assessment, or UKCA, mark. However, the MHRA has recently confirmed that, subject to certain conditions, general medical devices compliant with the (EU) Medical Devices Directive or AIMD with a valid declaration and CE marking can be placed on the Great Britain market up until the sooner of expiry of certificate or June 30, 2028. However, UKCA marking will not be recognized in the EU. The rules for placing medical devices on the market in Northern Ireland, which is part of the UK, differ from those in the rest of the UK. Compliance with this legislation is a prerequisite to be able to affix the UKCA mark to our products, when and if certified, without which they cannot be sold or marketed in Great Britain.

In addition, the Trade and Cooperation Agreement, or the TCA, between the UK and the EU generally provides for cooperation and exchange of information between the parties in the areas of product safety and compliance, including market surveillance, enforcement activities and measures, standardization-related activities, exchanges of officials, and coordinated product recalls. As such, processes for compliance and reporting should reflect requirements from regulatory authorities.

Coverage and Reimbursement

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific product lines and procedures. In the EU and UK, member states impose controls on whether products are reimbursable by national or regional health service providers and on the prices at which devices are reimbursed under state-run healthcare schemes. More and more, local, product specific reimbursement law is applied as an overlay to Medical Devices Regulation, which has provided an additional layer of clearance requirement.

Regulation of Medicinal Products in the European Union

In addition to regulations in the United States, we are subject to a variety of regulations in other jurisdictions governing, among other things, clinical studies, commercial sales, and distribution of our future

products. Because biologically sourced raw materials are subject to unique contamination risks, their use may be restricted in some countries. In addition, ethical, social and legal concerns about gene-editing technology, gene therapy, genetic testing and genetic research could result in additional regulations restricting or prohibiting the processes we may use.

Most countries outside of the United States, including the EU, require that clinical trial applications, or CTAs, be submitted to and approved by the local regulatory authority for each clinical study. In addition, whether or not we obtain FDA approval for a product candidate, we must obtain the requisite approval from comparable regulatory authorities outside the United States before we can commence clinical studies or marketing of the product candidate in those countries. The requirements and process governing the conduct of clinical trials, approval, product licensing, pricing and reimbursement vary from country to country. Failure to comply with applicable foreign regulatory requirements, may be subject to, among other things, fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

Non-Clinical Studies and Clinical Trials

Similarly to the United States, the various phases of non-clinical and clinical research in the EU are subject to significant regulatory controls.

Non-clinical studies are performed to demonstrate the health or environmental safety of new chemical or biological substances. Non-clinical (pharmaco-toxicological) studies must be conducted in compliance with the principles of GLP as set forth in EU Directive 2004/10/EC (unless otherwise justified for certain particular medicinal products – e.g., radio-pharmaceutical precursors for radio-labelling purposes). GLP principles define a set of rules and criteria for a quality system concerned with the organizational process and the conditions under which these non-clinical studies are planned, performed, monitored, recorded, archived and reported. These GLP standards reflect the Organization for Economic Co-operation and Development requirements.

Clinical trials of medicinal products in the EU must be conducted in accordance with EU and national regulations and the International Conference on Harmonization, or ICH, guidelines on good clinical practices, or GCP, as well as the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki. Additional GCP guidelines from the European Commission, focusing in particular on traceability, apply to clinical trials of advanced therapy medicinal products, or ATMPs. If the sponsor of the clinical trial is not established within the EU, it must appoint an EU entity to act as its legal representative. The sponsor must take out a clinical trial insurance policy, and in most EU member states, the sponsor is liable to provide ‘no fault’ compensation to any study subject injured in the clinical trial.

The regulatory landscape related to clinical trials in the EU has been subject to recent changes. The EU Clinical Trials Regulation, or CTR, which was adopted in April 2014 and repeals the EU Clinical Trials Directive, became applicable on January 31, 2022. Unlike directives, the CTR is directly applicable in all EU member states without the need for member states to further implement it into national law. The CTR notably harmonizes the assessment and supervision processes for clinical trials throughout the EU via a Clinical Trials Information System, which contains a centralized EU portal and database.

While the Clinical Trials Directive required a separate CTA to be submitted in each member state in which the clinical trial takes place, to both the competent national health authority and an independent ethics committee, much like the FDA and IRB respectively, the CTR introduces a centralized process and only requires the submission of a single application for multi-center trials. The CTR allows sponsors to make a single submission to both the competent authority and an ethics committee in each member state, leading to a single decision per member state. The CTA must include, among other things, a copy of the trial protocol and an investigational medicinal product dossier containing information about the manufacture and quality of the medicinal product under investigation. The assessment procedure of the CTA has been harmonized as well,

including a joint assessment by all member states concerned, and a separate assessment by each member state with respect to specific requirements related to its own territory, including ethics rules. Each member state's decision is communicated to the sponsor via the centralized EU portal. Once the CTA is approved, clinical study development may proceed.

The CTR foresees a three-year transition period. The extent to which ongoing and new clinical trials will be governed by the CTR varies. Clinical trials for which an application was submitted (i) prior to January 31, 2022 under the Clinical Trials Directive, or (ii) between January 31, 2022 and January 31, 2023 and for which the sponsor has opted for the application of the EU Clinical Trials Directive remain governed by said Directive until January 31, 2025. After this date, all clinical trials (including those which are ongoing) will become subject to the provisions of the CTR.

Medicines used in clinical trials must be manufactured in accordance with cGMP. Other national and EU-wide regulatory requirements may also apply.

Marketing Authorization

In order to market our future product candidates in the EU, and in many other foreign jurisdictions, we must obtain separate regulatory approvals. More concretely, in the EU, medicinal product candidates can only be commercialized after obtaining a marketing authorization, or MA. To obtain regulatory approval of a product candidate (including an investigational biological product) under EU regulatory systems, we must submit a marketing authorization application, or MAA. The process for doing this depends, among other things, on the nature of the medicinal product.

There are two types of MAs:

- "Centralized MAs" are issued by the European Commission through the centralized procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the European Medicines Agency, or EMA, and is valid throughout the EU. It is compulsory for certain types of products, such as (i) medicinal products derived from biotechnological processes, (ii) designated orphan medicinal products, (iii) ATMPs, such as gene therapy, somatic cell-therapy or tissue-engineered medicines and (iv) medicinal products containing a new active substance indicated for the treatment of HIV/AIDS, cancer, neurodegenerative diseases, diabetes, auto-immune and other immune dysfunctions and viral diseases. The centralized procedure is optional for any other medicinal products containing new active substances not authorized in the EU or for product candidates which constitute a significant therapeutic, scientific, or technical innovation or for which the granting of authorization would be in the interests of public health in the EU.

- "National MAs," which are issued by the competent authorities of the EU member states and only cover their respective territory, are available for product candidates not falling within the mandatory scope of the centralized procedure. Where a product has already been authorized for marketing in an EU member state, this national MA can be recognized in another member state through the Mutual Recognition Procedure. If the product has not received a national MA in any member state at the time of application, it can be approved simultaneously in various member states through the decentralized procedure. Under the decentralized procedure an identical dossier is submitted to the competent authorities of each of the member states in which the MA is sought, one of which is selected by the applicant as the Reference member state.

The Committee for Advanced Therapies, or CAT, is responsible in conjunction with the CHMP for the evaluation of ATMPs. The CAT is primarily responsible for the scientific evaluation of ATMPs and prepares a draft opinion on the quality, safety and efficacy of each ATMP for which a MAA is submitted. The CAT's opinion is then taken into account by the CHMP when giving its final recommendation regarding the

authorization of a product in view of the balance of benefits and risks identified. Although the CAT's draft opinion is submitted to the CHMP for final approval, the CHMP may depart from the draft opinion, if it provides detailed scientific justification. The CHMP and CAT are also responsible for providing guidelines on ATMPs and have published numerous guidelines, including specific guidelines on gene therapies and cell therapies. These guidelines provide additional guidance on the factors that the EMA will consider in relation to the development and evaluation of ATMPs and include, among other things, the preclinical studies required to characterize ATMPs; the manufacturing and control information that should be submitted in a marketing authorization application; and post-approval measures required to monitor patients and evaluate the long term efficacy and potential adverse reactions of ATMPs.

Under the centralized procedure the maximum timeframe for the evaluation of a MAA by the EMA is 210 days. In exceptional cases, the CHMP might perform an accelerated review of a MAA in no more than 150 days (not including clock stops). Innovative products that target an unmet medical need and/or are expected to be of major public health interest may be eligible for a number of expedited development and review programs, such as the Priority Medicines, or PRIME, scheme, which provides incentives similar to the breakthrough therapy designation in the U.S. In March 2016, the EMA launched an initiative, the PRIME scheme, a voluntary scheme aimed at enhancing the EMA's support for the development of medicines that target unmet medical needs. It is based on increased interaction and early dialogue with companies developing promising medicines, to optimize their product development plans and speed up their evaluation to help them reach patients earlier. Product developers that benefit from PRIME designation can expect to be eligible for accelerated assessment but this is not guaranteed. Many benefits accrue to sponsors of product candidates with PRIME designation, including but not limited to, early and proactive regulatory dialogue with the EMA, frequent discussions on clinical trial designs and other development program elements, and accelerated MAA assessment once a dossier has been submitted. Importantly, a dedicated contact and rapporteur from the CHMP is appointed early in the PRIME scheme facilitating increased understanding of the product at EMA's committee level. An initial meeting initiates these relationships and includes a team of multidisciplinary experts at the EMA to provide guidance on the overall development and regulatory strategies.

MAs have an initial duration of five years. After these five years, the authorization may be renewed for an unlimited period on the basis of a reevaluation of the risk-benefit balance. Moreover, in the EU, a "conditional" MA may be granted in cases where all the required safety and efficacy data are not yet available. The conditional MA is subject to conditions to be fulfilled for generating the missing data or ensuring increased safety measures. It is valid for one year and has to be renewed annually until fulfillment of all the conditions. Once the pending studies are provided, it can become a "standard" MA. However, if the conditions are not fulfilled within the timeframe set by the EMA, the MA ceases to be renewed. Furthermore, MA may also be granted "under exceptional circumstances" when the applicant can show that it is unable to provide comprehensive data on the efficacy and safety under normal conditions of use even after the product has been authorized and subject to specific procedures being introduced. This may arise in particular when the intended indications are very rare and, in the present state of scientific knowledge, it is not possible to provide comprehensive information, or when generating data may be contrary to generally accepted ethical principles. This MA is close to the conditional MA as it is reserved to medicinal products to be approved for severe diseases or unmet medical needs and the applicant does not hold the complete data set legally required for the grant of a MA. However, unlike the conditional MA, the applicant does not have to provide the missing data and will never have to. Although the MA "under exceptional circumstances" is granted definitively, the risk-benefit balance of the medicinal product is reviewed annually and the MA is withdrawn in case the risk-benefit ratio is no longer favorable.

Data and Marketing Exclusivity

The EU also provides opportunities for market exclusivity. Upon receiving MA, reference product candidates generally receive eight years of data exclusivity and an additional two years of market exclusivity. If granted, the data exclusivity period prevents generic or biosimilar applicants from relying on the preclinical and

clinical trial data contained in the dossier of the reference product when applying for a generic or biosimilar MA in the EU during a period of eight years from the date on which the reference product was first authorized in the EU. The market exclusivity period prevents a successful generic or biosimilar applicant from commercializing its product in the EU until 10 years have elapsed from the initial MA of the reference product in the EU. The overall 10-year market exclusivity period can be extended to a maximum of eleven years if, during the first eight years of those 10 years, the MA holder obtains an authorization for one or more new therapeutic indications which, during the scientific evaluation prior to their authorization, are held to bring a significant clinical benefit in comparison with existing therapies. However, there is no guarantee that a product will be considered by the EU's regulatory authorities to be a new chemical entity, and products may not qualify for data exclusivity.

In the EU, there is a special regime for biosimilars, or biological medicinal products that are similar to a reference medicinal product but that do not meet the definition of a generic medicinal product, for example, because of differences in raw materials or manufacturing processes. For such products, the results of appropriate preclinical or clinical trials must be provided, and guidelines from the EMA detail the type of quantity of supplementary data to be provided for different types of biological product. There are no such guidelines for complex biological products, such as gene or cell therapy medicinal products, and so it is unlikely that biosimilars of those products will currently be approved in the EU. However, guidance from the EMA states that they will be considered in the future in light of the scientific knowledge and regulatory experience gained at the time.

Post-Approval Requirements

Similar to the United States, both MA holders and manufacturers of medicinal products are subject to comprehensive regulatory oversight by the EMA, the European Commission and/or the competent regulatory authorities of the member states. The holder of a MA must establish and maintain a pharmacovigilance system and appoint an individual qualified person for pharmacovigilance who is responsible for the establishment and maintenance of that system, and oversees the safety profiles of medicinal products and any emerging safety concerns. Key obligations include expedited reporting of suspected serious adverse reactions and submission of periodic safety update reports, or PSURs.

All new MAA must include a risk management plan, or RMP, describing the risk management system that the company will put in place and documenting measures to prevent or minimize the risks associated with the product. The regulatory authorities may also impose specific obligations as a condition of the MA. Such risk-minimization measures or post-authorization obligations may include additional safety monitoring, more frequent submission of PSURs, or the conduct of additional clinical trials or post-authorization safety studies.

The advertising and promotion of medicinal products is also subject to laws concerning promotion of medicinal products, interactions with physicians, misleading and comparative advertising and unfair commercial practices. All advertising and promotional activities for the product must be consistent with the approved summary of product characteristics, and therefore all off-label promotion is prohibited. Direct-to-consumer advertising of prescription medicines is also prohibited in the EU. Although general requirements for advertising and promotion of medicinal products are established under EU directives, the details are governed by regulations in each member state and can differ from one country to another.

The aforementioned EU rules are generally applicable in the EEA.

Failure to comply with EU and member state laws that apply to the conduct of clinical trials, manufacturing approval, MA of medicinal products and marketing of such products, both before and after grant of the MA, manufacturing of pharmaceutical products, statutory health insurance, bribery and anti-corruption or with other applicable regulatory requirements may result in administrative, civil or criminal penalties. These penalties could include delays or refusal to authorize the conduct of clinical trials, or to grant MA, product withdrawals and recalls, product seizures, suspension, withdrawal or variation of the MA, total or partial

suspension of production, distribution, manufacturing or clinical trials, operating restrictions, injunctions, suspension of licenses, fines and criminal penalties.

Brexit

The TCA, agreed between the UK and the EU has been provisionally applicable since January 1, 2021 and has been formally applicable since May 1, 2021. The TCA includes specific provisions concerning pharmaceuticals, which include the mutual recognition cGMP inspections of manufacturing facilities for medicinal products and cGMP documents issued, but does not foresee wholesale mutual recognition of UK and EU pharmaceutical regulations. While the TCA has avoided a "no deal" Brexit scenario, and provides for quota and tariff free trading of goods in principle, it is nevertheless expected that the TCA will result in the creation of non-tariff barriers (such as increased shipping and regulatory costs and complexities) to the trade in goods between the UK and EU. Further, the TCA does not provide for the continued free movement of services between the UK and EU and also grants each of the UK and EU the ability, in certain circumstances, to unilaterally impose tariffs on one another.

EU laws which have been transposed into UK law through secondary legislation continue to be applicable as "retained EU law". However, new legislation such as the EU Clinical Trial Regulation (Regulation (EU) No 536/2014) or in relation to orphan medicines will not be applicable. The UK government has passed a new Medicines and Medical Devices Act 2021, which introduces delegated powers in favor of the Secretary of State or an 'appropriate authority' to amend or supplement existing regulations in the area of medicinal products and medical devices. This allows new rules to be introduced in the future by way of secondary legislation, which aims to allow flexibility in addressing regulatory gaps and future changes in the fields of human medicines, clinical trials and medical devices.

As of January 1, 2021, the MHRA is the UK's standalone medicines and medical devices regulator. As a result of the Northern Ireland Protocol, different rules will apply in Northern Ireland than in England, Wales, and Scotland, together, Great Britain, or GB; broadly, Northern Ireland will continue to follow the EU regulatory regime, but its national competent authority will remain the MHRA. On February 27, 2023, the UK government and the European Commission announced a political agreement in principle to replace the Northern Ireland Protocol with a new set of arrangements, known as the "Windsor Framework". This new framework fundamentally changes the existing system under the Northern Ireland Protocol, including with respect to the regulation of medicinal products in the UK. In particular, the MHRA will be responsible for approving all medicinal products destined for the UK market (i.e., Great Britain and Northern Ireland), and the EMA will no longer have any role in approving medicinal products destined for Northern Ireland. A single UK-wide MA will be granted by the MHRA for all medicinal products to be sold in the UK, enabling products to be sold in a single pack and under a single authorization throughout the UK. The Windsor Framework was approved by the EU-UK Joint Committee on March 24, 2023, so the UK government and the EU will enact legislative measures to bring it into law.

The MHRA has introduced changes to national licensing procedures, including procedures to prioritize access to new medicines that will benefit patients, including a 150-day assessment and a rolling review procedure. All existing EU MAs for centrally authorized products were automatically converted or grandfathered into UK MAs, effective in GB (only), free of charge on January 1, 2021, unless the MA holder chose to opt-out.

There is no pre-MA orphan designation. Instead, the MHRA will review applications for orphan designation in parallel to the corresponding MA application. The criteria are essentially the same, but have been tailored for the market, i.e., the prevalence of the condition in GB, rather than the EU, must not be more than five in 10,000. Should an orphan designation be granted, the period or market exclusivity will be set from the date of first approval of the product in GB.

For MAs, an applicant for a centralized MA must be established in the EU. After Brexit, companies established in the UK can no longer use the centralized procedure and instead must follow one of the UK national

authorization procedures or one of the remaining post-Brexit international cooperation procedures to obtain an MA to commercialize products in the UK. The MHRA may rely on a decision taken by the European Commission on the approval of a new (Centralized Procedure) MA when determining an application for a Great Britain authorization until December 31, 2023. On January 24, 2023, the MHRA announced that a new international recognition framework will be put in place from January 1, 2024, which will have regard to decisions on the approval of MAs made by the EMA and certain other regulators when determining an application for a new GB MA. The MHRA's Decentralized or Mutual Recognition Procedures also enables MAs approved in EU member states (or Iceland, Liechtenstein, Norway) to be granted in GB.

The full impact of such arrangements may not yet be fully known.

Coverage and Reimbursement

In some foreign countries, the proposed pricing for a product candidate must be approved before it may be lawfully marketed. The requirements governing product pricing vary widely from country to country. For example, in the EU pricing and reimbursement of pharmaceutical products are regulated at a national level under the individual EU member states' social security systems. Some foreign countries provide options to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and can control the prices and reimbursement levels of medicinal products for human use. Some jurisdictions operate positive and negative list systems under which products may only be marketed once a reimbursement price has been agreed. To obtain reimbursement or pricing approval, some of these countries may require the completion of clinical trials that compare the cost effectiveness of a particular product candidate to currently available therapies. A country may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for products will allow favorable reimbursement and pricing arrangements for any of our product candidates. Even if approved for reimbursement, historically, product candidates launched in some foreign countries, such as some member states in the EU, do not follow price structures of the United States and prices generally tend to be significantly lower.

Other Healthcare Laws

Healthcare Fraud and Abuse Laws

In the United States, we are subject to a number of federal and state healthcare regulatory laws that restrict business practices in the healthcare industry. These laws include, but are not limited to, federal and state anti-kickback, false claims, transparency and other healthcare fraud and abuse laws.

The U.S. federal Anti-Kickback Statute prohibits, among other things, any person or entity from knowingly and willfully offering, paying, soliciting, receiving or providing any remuneration, directly or indirectly, overtly or covertly, to induce or in return for purchasing, leasing, ordering, or arranging for or recommending the purchase, lease, or order of any good, facility, item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. The term "remuneration" has been broadly interpreted to include anything of value, including cash, improper discounts, and free or reduced price items and services. Among other things, the Anti-Kickback Statute has been interpreted to apply to arrangements between medical device manufacturers on the one hand and prescribers and purchasers on the other. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. The government can exercise enforcement discretion in taking action against unprotected activities. Further, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. Violations are subject to civil and criminal fines and penalties for each violation, plus up to three times the remuneration involved, imprisonment, and exclusion from government healthcare programs. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or

fraudulent claim for purposes of the federal False Claims Act or federal civil monetary penalties. The majority of states also have anti-kickback laws, which establish similar prohibitions, and in some cases may apply to items or services reimbursed by any third-party payor, including commercial insurers and self-pay patients.

The federal false claims laws, including the civil False Claims Act, prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false, fictitious or fraudulent claim for payment to, or approval by, the federal government, knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government, or knowingly making a false statement to avoid, decrease or conceal an obligation to pay money to the U.S. federal government. A claim includes "any request or demand" for money or property presented to the U.S. government. Manufacturers can be held liable under the federal False Claims Act even when they do not submit claims directly to government payors if they are deemed to "cause" the submission of false or fraudulent claims. Actions under the civil False Claims Act may be brought by the Attorney General or as a qui tam action by a private individual in the name of the government. Moreover, a claim including items or services resulting from a violation of the U.S. federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act. In addition, various states have enacted false claim laws analogous to the federal False Claims Act, although many of these state laws apply where a claim is submitted to any third-party payor and not merely a federal healthcare program.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created additional federal criminal statutes that prohibit, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Similar to the U.S. federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, including the Final Omnibus Rule published in January 2013, which impose requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates, independent contractors or agents of covered entities, that perform services for them that involve the creation, maintenance, receipt, use, or disclosure of, individually identifiable health information relating to the privacy, security and transmission of individually identifiable health information. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions. In addition, there may be additional federal, state and non-U.S. laws which govern the privacy and security of health and other personal information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services, or CMS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain non-physician providers (physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists, anesthesiology assistants and certified nurse midwives), and teaching hospitals and physician ownership and investment interests, including such ownership and investment interests held by a physician's immediate family members.

Federal price reporting laws, which require manufacturers to calculate and report complex pricing metrics to government programs, where such reported prices may be used in the calculation of reimbursement and/or discounts on approved products.

Federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers.

Additionally, we are subject to state and foreign equivalents of each of the healthcare laws and regulations described above, among others, some of which may be broader in scope and may apply regardless of the payor. Many U.S. states have adopted laws similar to the federal Anti-Kickback Statute and False Claims Act, and may apply to our business practices, including, but not limited to, research, distribution, sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental payors, including private insurers. In addition, some states have passed laws that require manufacturers to implement compliance programs or to comply with the pharmaceutical and medical device industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government. Several states also impose other marketing restrictions or require manufacturers to make marketing or price disclosures to the state and require the registration of sales representatives. State and foreign laws, including, for example, the European Union General Data Protection Regulation, which became effective May 2018, also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. There are ambiguities as to what is required to comply with these state requirements and if we fail to comply with an applicable state law requirement we could be subject to penalties. Finally, there are state and foreign laws governing the privacy and security of health information, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Violations of fraud and abuse laws, including federal and state anti-kickback and false claims laws, may be punishable by criminal and civil sanctions, including fines and civil monetary penalties, the possibility of exclusion from federal healthcare programs (including Medicare and Medicaid), disgorgement and corporate integrity agreements, which impose, among other things, rigorous operational and monitoring requirements on companies. Similar sanctions and penalties, as well as imprisonment, also can be imposed upon executive officers and employees of such companies.

European Healthcare Laws

Many EU member states have adopted specific anti-gift statutes that further limit commercial practices for medical devices and medicinal products, in particular vis-à-vis healthcare professionals and organizations. Additionally, there has been a recent trend of increased regulation of payments and transfers of value provided to healthcare professionals or entities and many EU member states have adopted national "Sunshine Acts" which impose reporting and transparency requirements (often on an annual basis), similar to the requirements in the United States, on manufacturers. Certain countries also mandate implementation of commercial compliance programs.

Coverage and Reimbursement

Significant uncertainly exists as to the coverage and reimbursement status of procedures using any product candidates for which we may obtain regulatory approvals. In the United States, sales of our product candidates, if approved, will depend, in part, on the extent to which governmental authorities, private health insurers and other third-party payors provide coverage for and establish adequate reimbursement levels for the procedures in which our product candidates, if approved, are used. In the United States, third-party payors include federal and state healthcare programs, private managed care plans, health insurers and other organizations. Adequate coverage and reimbursement from governmental healthcare programs, such as Medicare and Medicaid in the United States, and commercial payors are critical to new product acceptance.

Our ability to commercialize any products successfully also will depend in part on the extent to which coverage and reimbursement for procedures using our products will be available from government health administration authorities, private insurers and other organizations. In the United States, the principal decisions about reimbursement for new medicines are typically made by the Centers for Medicare & Medicaid Services, or CMS, an agency within the U.S. Department of Health and Human Services. CMS decides whether and to what extent a new medicine will be covered and reimbursed under Medicare and certain private payors may follow CMS policies. Coverage and reimbursement by governmental and other third-party payors may depend upon a number of factors, including the third-party payor's determination that use of a product or service and its use for a particular patient is:

- a covered benefit under its health plan;
- safe, effective and medically necessary;
- appropriate for the specific patient;
- cost-effective; and
- neither experimental nor investigational.

We cannot be sure that coverage and reimbursement will be available for any procedure that uses our product candidate that we commercialize and, if coverage and reimbursement are available, what the level of reimbursement will be. Coverage may also be more limited than the purposes for which a product candidate is approved by the FDA or comparable foreign regulatory authorities. Third-party payors are increasingly challenging the price, examining the medical necessity and reviewing the cost-effectiveness of medical devices and medical services, in addition to questioning their safety and efficacy. Obtaining coverage and reimbursement approval of a product from a government or other third-party payor is a time consuming and costly process that could require us to provide to each payor supporting scientific, clinical and cost-effectiveness data for the use of our product on a payor-by-payor basis, with no assurance that coverage and adequate reimbursement will be obtained.

No uniform policy of coverage and reimbursement among payors in the United States exists and coverage and reimbursement for procedures can differ significantly from payor to payor. Moreover, the process for determining whether a third-party payor will provide coverage for a product or procedure may be separate from the process for establishing the reimbursement rate that such a payor will pay for the procedure using new medical devices and technology. A payor's decision to provide coverage for a procedure does not imply that an adequate reimbursement rate will be approved to also cover the cost of our product candidates, if approved. Further, one payor's determination to provide coverage for a product or procedure does not assure that other payors will also provide coverage for the product or procedure. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to ensure profitability.

Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. In addition, many pharmaceutical manufacturers must calculate and report certain price reporting metrics to the government, such as average sales price and best price. Penalties may apply in some cases when such metrics are not submitted accurately and timely. Further, these prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs. Payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts,

restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific product lines and procedures. In the European Union, member states are facing increased pressure to limit public healthcare spending. There can be no assurance that procedures using our product candidates, once approved, will be covered for a specific indication or will be considered cost-effective by third-party payors, that an adequate level of reimbursement will be available or that the third-party payors' reimbursement policies will not adversely affect our ability to sell our product candidate profitably, once approved. More and more, local, product specific reimbursement law is applied as an overlay to Medical Devices Regulation, which has provided an additional layer of clearance requirement. Historically, products launched in the European Union do not follow the price structures of the Unites States and product prices in the European Union have generally been significantly lower as compared to the United States.

The marketability of any product candidates for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement. In addition, emphasis on managed care, the increasing influence of health maintenance organizations, and additional legislative changes in the United States has increased, and we expect will continue to increase, the pressure on healthcare pricing. The downward pressure on the rise in healthcare costs in general, particularly medical devices and surgical procedures and other treatments, has become very intense. Coverage policies and third- party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which we receive regulatory approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Healthcare Reform

The United States and some foreign jurisdictions are considering or have enacted a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our product candidates profitably, if approved. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality or expanding access. Current and future legislative proposals to further reform healthcare or reduce healthcare costs may limit coverage of or lower reimbursement for the procedures associated with the use of our products, when and if approved. The cost containment measures that payors and providers are instituting and the effect of any healthcare reform initiative implemented in the future could impact our revenue from the sale of our future products.

The implementation of the Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively, the ACA, in the United States, for example, has changed healthcare financing and delivery by both governmental and private insurers substantially, and affected medical device manufacturers significantly. The ACA, among other things, provided incentives to programs that increase the federal government's comparative effectiveness research, and implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models. Additionally, the ACA expanded eligibility criteria for Medicaid programs and created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research. In addition, the ACA has subjected biologic products to potential competition by lower-cost biosimilars; increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program; extended the Medicaid Drug Rebate program to utilization of prescriptions of individuals enrolled in Medicaid managed care organizations; subjected manufacturers to new annual fees and taxes for certain branded prescription drugs; created a Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 70% point-of-sale discounts off negotiated prices of

applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; and provided incentives to programs that increase the federal government's comparative effectiveness research.

Since its enactment, there have been judicial, executive and political challenges to certain aspects of the ACA. While Congress has not passed comprehensive repeal legislation, bills affecting the implementation of certain taxes under the ACA have been signed into law, including the TCJA, which includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On June 17, 2021, the U.S. Supreme Court dismissed the most recent judicial challenge to the ACA brought by several states without specifically ruling on the constitutionality of the ACA. It is unclear how any challenge to repeal or replace the ACA will impact our business.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted:

- The Budget Control Act of 2011, among other things, reduced Medicare payments to providers by 2% per fiscal year, effective on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2032, with the exception of a temporary suspension from May 1, 2020 through March 31, 2022, unless additional Congressional action is taken. Additionally, the American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.
- The Medicare Access and CHIP Reauthorization Act of 2015 repealed the formula by which Medicare made annual payment adjustments to physicians and replaced the former formula with fixed annual updates and a new system of incentive payments that began in 2019 that are based on various performance measures and physicians' participation in alternative payment models, such as accountable care organizations.
- On March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 into law, which eliminates the statutory Medicaid drug rebate cap, currently set at 100% of a drug's average manufacturer price, for single source and innovator multiple source drugs, beginning January 1, 2024. Due to the Statutory Pay-As-You-Go Act of 2010, estimated budget deficit increases resulting from the American Rescue Plan Act of 2021, and subsequent legislation, Medicare payments to providers will be further reduced starting in 2025 absent further legislation.
- On April 13, 2017, CMS published a final rule that gives states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces.
- On May 23, 2019, CMS published a final rule to allow Medicare Advantage Plans the option of using step therapy for Part B drugs beginning January 1, 2020. These laws and regulations may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

There has also been increasing legislative and enforcement interest in the United States with respect to drug pricing practices. Specifically, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under Medicare, and review the relationship between pricing and manufacturer patient programs. The Inflation Reduction Act of 2022, or IRA, includes several provisions that may impact our business to varying degrees, including provisions that reduce the out-of-pocket spending cap for Medicare Part D beneficiaries from $7,050 to $2,000 starting in 2025, thereby effectively

eliminating the coverage gap; impose new manufacturer financial liability on certain drugs under Medicare Part D; allow the U.S. government to negotiate Medicare Part B and Part D price caps for certain high-cost drugs and biologics without generic or biosimilar competition; require companies to pay rebates to Medicare for certain drug prices that increase faster than inflation; and delay until January 1, 2032 the implementation of the HHS rebate rule that would have limited the fees that pharmacy benefit managers can charge. Further, under the IRA, orphan drugs are exempted from the Medicare drug price negotiation program, but only if they have one orphan designation and for which the only approved indication is for that disease or condition. If a product receives multiple orphan designations or has multiple approved indications, it may not qualify for the orphan drug exemption. The implementation of the IRA is currently subject to ongoing litigation challenging the constitutionality of the IRA's Medicare drug price negotiation program. The effects of the IRA on our business and the healthcare industry in general is not yet known.

Further, President Biden has issued multiple executive orders that have sought to reduce prescription drug costs. In February 2023, HHS also issued a proposal in response to an October 2022 executive order from President Biden that includes a proposed prescription drug pricing model that will test whether targeted Medicare payment adjustments will sufficiently incentivize manufacturers to complete confirmatory trials for drugs approved through FDA's accelerated approval pathway. Although a number of these and other proposed measures may require authorization through additional legislation to become effective, and the Biden administration may reverse or otherwise change these measures, both the Biden administration and Congress have indicated that they will continue to seek new legislative measures to control drug costs.

On December 13, 2021, Regulation No 2021/2282 on Health Technology Assessment, or HTA, amending Directive 2011/24/EU, was adopted. While the regulation entered into force in January 2022, it will only begin to apply from January 2025 onwards, with preparatory and implementation-related steps to take place in the interim. Once the regulation becomes applicable, it will have a phased implementation depending on the concerned products. This regulation intends to boost cooperation among EU member states in assessing health technologies, including new medicinal products as well as certain high-risk medical devices, and providing the basis for cooperation at the EU level for joint clinical assessments in these areas. The regulation will permit EU member states to use common HTA tools, methodologies, and procedures across the EU, working together in four main areas, including joint clinical assessment of the innovative health technologies with the most potential impact for patients, joint scientific consultations whereby developers can seek advice from HTA authorities, identification of emerging health technologies to identify promising technologies early, and continuing voluntary cooperation in other areas. Individual EU member states will continue to be responsible for assessing non-clinical (e.g., economic, social, ethical) aspects of health technology, and making decisions on pricing and reimbursement.

We expect additional state, federal and foreign healthcare reform measures to be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our future products or additional pricing pressure.

Data Privacy & Security

Numerous state, federal and foreign laws, regulations, and standards govern the collection, use, access to, confidentiality and security of health-related and other personal information, including clinical trial data, and could apply now or in the future to our operations or the operations of our partners. In the United States, numerous federal and state laws and regulations, including data breach notification laws, health information privacy and security laws and consumer protection laws and regulations govern the collection, use, disclosure, and protection of health-related and other personal information. In addition, certain foreign laws govern the privacy and security of personal data, including health-related data. For example, the GDPR imposes strict requirements for processing the personal data of individuals within the European Economic Area. Companies that must comply with the GDPR face increased compliance obligations and risk, including more robust regulatory enforcement of data protection requirements and potential fines for noncompliance of up to

€20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater. Further, from January 1, 2021, companies have had to comply with the GDPR and also the UK GDPR, which, together with the amended UK Data Protection Act 2018, retains the GDPR in UK national law. The UK GDPR mirrors the fines under the GDPR, i.e., fines up to the greater of €20 million (£17.5 million) or 4% of global turnover. Privacy and security laws, regulations, and other obligations are constantly evolving, may conflict with each other to complicate compliance efforts, and can result in investigations, proceedings, or actions that may lead to significant civil and/or criminal penalties and restrictions on data processing.

Facilities

Since 2016, our corporate headquarters has been located at 17 Hartwell Avenue Lexington, Massachusetts 02421, where we currently lease approximately 30,000 square feet of office and manufacturing space. As of September 30, 2023, 62 of our employees are located at our corporate headquarters.

Employees and Human Capital Resources

As of September 30, 2023, we have 88 full-time employees, 72 of whom are dedicated to research and development, and 13 of our employees hold doctorate degrees (i.e., Ph.D., Pharm.D. or M.D.). None of our employees are represented by labor unions or covered by collective bargaining agreements. We consider our relationship with our employees to be good.

We recognize that our continued ability to attract, retain and motivate exceptional employees is vital to ensuring our long-term competitive advantage. Our employees are critical to our long-term success and are essential to helping us meet our goals. Among other things, we support and incentivize our employees in the following ways:

- ***Talent Development, Compensation and Retention***. We strive to provide our employees with a rewarding work environment, including the opportunity for growth, success and professional development. We provide our employees with competitive salaries and bonuses, opportunities for equity ownership, development programs that enable continued learning and growth and a robust employment package—all designed to attract and retain a skilled and diverse workforce.
- ***Health and Safety***. We support the health and safety of our employees by providing health care, retirement planning, paid time off and other additional benefits, which are intended to assist employees to manage their well-being.
- ***Inclusion and Diversity***. We believe that much of our success is rooted in the diversity of our teams and our commitment to inclusion. We value diversity at all levels and focus on extending our diversity and inclusion initiatives across our entire workforce.

Legal Proceedings

We are not subject to any material legal proceedings.

MANAGEMENT

The following table provides information regarding our executive officers and members of our board of directors (ages as of the date of this prospectus):

Name	Age	Position(s)
Executive Officers		
Harith Rajagopalan, M.D., Ph.D.	47	Co-Founder, Chief Executive Officer, Director
Jay D. Caplan	62	Co-Founder, President, Chief Product Officer
Lisa A. Davidson	57	Chief Financial Officer, Treasurer
Timothy Kieffer, Ph.D.	57	Chief Scientific Officer
Sarah Toomey	49	General Counsel, Corporate Secretary
Non-Employee Directors		
Kelly Barnes	57	Director
William W. Bradley	80	Director
Marc Elia	47	Director
Clive Meanwell, M.B., Ch.B., M.D.	66	Director
Ajay Royan	43	Director
Amy W. Schulman	63	Director
Allan R. Will	69	Chairman

Executive Officers

Harith Rajagopalan, M.D. Ph.D. Dr. Rajagopalan co-founded Fractyl in 2010 and has served as our Chief Executive Officer and a member of our board of directors since 2011, while serving as an Entrepreneur-in-Residence at General Catalyst Partners from 2009 to 2011. Prior to founding Fractyl, Dr. Rajagopalan trained in internal medicine and clinical cardiology at Brigham and Women's Hospital in Boston, Massachusetts from 2005 to 2011, and completed a research fellowship at Harvard Medical School from 2009 to 2011. Dr. Rajagopalan received his B.S. in chemistry from Stanford University, and his M.D. and Ph.D. from Johns Hopkins University School of Medicine. We believe that Dr. Rajagopalan is qualified to serve on our board of directors due to his role as co-founder of Fractyl Health, his management experience as our Chief Executive Officer and his scientific and medical experience.

Jay D. Caplan. Mr. Caplan co-founded Fractyl in 2010 and has served as our President and Chief Product Officer since 2011 and January 2022, respectively. He previously served as a member of our board of directors from 2011 to 2017. Prior to founding Fractyl, Mr. Caplan served as Chief Operating Officer of Candela Corporation from November 2007 to January 2010, which was then a publicly held U.S.-based global medical aesthetic device company. Prior to Candela, he served as Chief Technology Officer and Vice President of Research and Development of InfraReDx, Inc. from September 2001 to October 2007, a privately held company that designs and develops catheter-based coronary imaging devices, that was later acquired by Nipro Corporation (Japan). Mr. Caplan also previously served as Vice President of Operations of Thermo Cardiosystems Inc. (now part of Abbott Laboratories), where he assisted in developing the HeartMate II left ventricular assist device. Mr. Caplan received his B.S. in electrical engineering from the Massachusetts Institute of Technology, or MIT, and his M.B.A. from the University of Pennsylvania's Wharton School of Business.

Lisa A. Davidson. Ms. Davidson has served as our Chief Financial Officer and Treasurer since August 2015. Prior to joining us, Ms. Davidson was Vice President of Finance and Administration of Flexion Therapeutics, Inc., or Flexion, a publicly held biopharmaceutical company focused on the development and commercialization of novel, injectable pain therapies, from March 2009 to August 2015. Prior to Flexion, Ms. Davidson served as Director of Finance of OmniSonics Medical Technologies, Inc., a privately held U.S.-based medical device company focused on the treatment of vascular occlusive diseases. Ms. Davidson also

previously served as Director of Finance of PerkinElmer Inc., a publicly held company focused on globally providing products and services to customers in health sciences and other advanced technology markets, and as Director of Finance at Citizens Advisers, Inc., an investment adviser to Citizens Funds, an investment company. Ms. Davidson received her B.A. and M.B.A. from the University of New Hampshire.

Timothy Kieffer, Ph.D. Dr. Kieffer has served as our Chief Scientific Officer since September 2023. Prior to joining us, Dr. Kieffer served as the Chief Scientific Officer of ViaCyte Inc., a privately held company at the forefront of stem cell-derived treatments for diabetes, from September 2021 to October 2022. He also currently serves as a Professor of Medicine in the department of cellular and physiological sciences and surgery at the University of British Columbia, a position he has held since 2007. Dr. Kieffer's research is focused on islet biology and the development of novel gene and cell therapy approaches to treat diabetes, and he has co-authored more than 200 publications on these topics and has been cited over 20,000 times. He received his Ph.D. in physiology from the University of British Columbia.

Sarah Toomey**.** Ms. Toomey has served as our General Counsel and Corporate Secretary since May 2022. Prior to joining us, Ms. Toomey was Senior Vice President of Operations and General Counsel of BERG LLC or BERG (now BPGbio, Inc.), a clinical-stage AI-powered biopharmaceutical company focused on oncology, neurology and rare diseases, from October 2017 to May 2022. Prior to BERG, Ms. Toomey was General Counsel at Metamark Genetics, a molecular diagnostics company focused on urological cancer care, from April 2015 to October 2017. Ms. Toomey also previously served as Senior Vice President and General Counsel at IntelligentMDx, a company that developed and manufactured molecular diagnostics products, from February 2009 to January 2015. Ms. Toomey is a registered patent attorney and practiced patent law before becoming in-house counsel. Prior to law school, Ms. Toomey was employed at Merck as a microbiologist. Ms. Toomey received her B.S. in bacteriology from the University of Wisconsin-Madison and her J.D. from Suffolk University Law School.

Non-Employee Directors

Kelly Barnes. Ms. Barnes has served as a member of our board of directors since January 2022. Prior to joining us, she served in various roles at PricewaterhouseCoopers from 1988 to 2020, most recently serving as a Global Health Industries Leader from 2018 to 2020 and as a U.S. Health Industries Leader from 2009 to 2020, where she oversaw services across all health-related industries. Ms. Barnes currently serves on the board of directors of Included Health and is a member of the executive advisory board of the Walton College of Business at the University of Arkansas. She received her B.S.B.A. and M.S.A in accounting from the University of Arkansas and is a registered certified public accountant in the state of Texas. We believe that Ms. Barnes is qualified to serve on our board of directors due to her strong business and financial acumen, and extensive experience advising companies in the healthcare industry.

William W. Bradley. Senator Bradley has served as a member of our board of directors since March 2017. Since 2000, Sen. Bradley has been a managing director of Allen & Company LLC, an investment banking firm. From 2001 until 2004, he acted as chief outside advisor to McKinsey & Company's non-profit practice. In 2000, Sen. Bradley was a candidate for the Democratic nomination for President of the United States. He served as a senior advisor and vice chairman of the International Council of JP Morgan & Co. from 1997 through 1999. During that time, Sen. Bradley also worked as an essayist for CBS Evening News, and as a visiting professor at Stanford University, the University of Notre Dame and the University of Maryland. Sen. Bradley served in the U.S. Senate from 1979 until 1997, representing the State of New Jersey. Prior to serving in the U.S. Senate, he was an Olympic gold medalist in 1964, and from 1967 through 1977 he played professional basketball for the New York Knicks, during which time they won two world championships. Sen. Bradley previously served on the board of directors of Starbucks Corporation from June 2003 until March 2018. Sen. Bradley also previously served on the board of directors of Seagate Technology, Willis Group Holdings Limited and QuinStreet, Inc. Sen. Bradley received his B.A. in American history from Princeton University and his M.A. in political philosophy and economics from the University of Oxford, Worcester College, where he was a Rhodes Scholar. We believe that Mr. Bradley is qualified

to serve on our board of directors due to his deep understanding of public policy and U.S. governmental and regulatory affairs, and his broad leadership and corporate governance experience.

Marc Elia. Mr. Elia has served as a member of our board of directors since June 2021. Mr. Elia also serves as a director and audit committee member at SQZ Biotech, a clinical-stage biotechnology company developing cell therapies for patients with cancer, a director at Invivyd, Inc. (previously Adagio Therapeutics), a publicly-held biotechnology company developing antibodies against viruses, including potentially against COVID-19, and previously served as a director at Adimab LLC, a provider of therapeutic antibody discovery and engineering. Mr. Elia also founded M28 Capital Management, a healthcare sector investment fund, and serves as its Chief Investment Officer. Mr. Elia received his B.A. at Carleton College, graduating with magna cum laude honors. We believe that Mr. Elia is qualified to serve on our board of directors due to his business expertise and experience serving as a director at various life science companies.

Clive Meanwell, M.B., Ch.B., M.D. Dr. Meanwell has served as a member of our board of directors since June 2021. Dr. Meanwell has also been a director and member of the compensation and audit committees at BB Biotech, a publicly-held Switzerland-based biotechnology investment company, since 2004, a director at EQRx, a privately-held biotechnology company aiming to make medicine more affordable, from January 2021 to August 2023, a director at Comanche BioPharma, a privately-held preclinical biopharmaceutical company developing treatments for preeclampsia, since 2021, a director at Hugo Health, a privately-held cloud-based healthcare platform, since 2021, a director at Invivyd, Inc., a publicly-held biotechnology company developing antibodies against viruses, including potentially against COVID-19, since 2022, and a director at Saama, a privately-held company, since 2021. Dr. Meanwell currently also serves at Executive Chairman and General Partner at Population Health Partners LP, an investment company focused on innovative therapeutics with the potential to transform health outcomes for populations. Dr. Meanwell also founded The Medicines Company, a biopharmaceutical company focused on addressing cardiovascular disease, and served as Executive Chairman and Chief Executive Officer until 2018 and Chief Innovation Officer until 2020. Dr. Meanwell received his M.B., Ch.B. and M.D. from the University of Birmingham, UK. We believe that Dr. Meanwell is qualified to serve on our board of directors due to his medical background and experience working with and serving on the boards of directors of various pharmaceutical and healthcare companies.

Ajay Royan. Mr. Royan has served as a member of our board of directors since 2014. Mr. Royan is the founder and has served as Managing General Partner at Mithril Capital Management LLC, or Mithril, a venture capital firm investing in technology companies, since June 2012. Mr. Royan serves on the board of directors of several private companies in which Mithril Capital Management LLC or its affiliates have invested, including Adimab, LLC, Oklo Inc., Helion Energy, Inc., AppDirect, Inc. and C2FO. Mr. Royan previously served on the board of directors of Adagio Therapeutics, Inc. Mr. Royan serves on the science advisory board of the Oak Ridge National Laboratory and the board of directors of Fulbright Canada. Mr. Royan received his B.A. from Yale University. We believe that Mr. Royan is qualified to serve on our board of directors due to his experience working in the venture capital industry and experience working with and serving on the boards of directors of numerous technology companies.

Amy W. Schulman. Ms. Schulman has served as a member of our board of directors since September 2018. Ms. Schulman is a healthcare investor and Managing Partner at Polaris Partners and co-founded and acts as Managing Partner of the Polaris Innovation Fund, which was formed in 2017. Ms. Schulman currently serves as Executive Chair of SQZ Biotech, as well as Lyndra Therapeutics, which she co-founded and served as the company's initial Chief Executive Officer from July 2015 to September 2019. Prior to joining Polaris Partners, Ms. Schulman, held various executive roles at Pfizer, including General Counsel, President of Pfizer Consumer Healthcare and Pfizer Nutrition. Ms. Schulman is currently a member of the board of directors of Alnylam Pharmaceuticals and Mount Sinai Hospital, and also serves as a member of Singapore's Health and Biomedical Sciences International Advisory Council. She previously served as a Senior Lecturer at Harvard Business School and was a partner at DLA Piper. Ms. Schulman received her B.A. in Philosophy and English at Wesleyan University, graduating with Phi Beta Kappa honors, and her J.D. from Yale Law School. We believe that

Ms. Schulman is qualified to serve on our board of directors due to her experience working with and serving on the boards of directors of various pharmaceutical and healthcare companies.

Allan R. Will. Mr. Will has served as Chairman of our board of directors since August 2012. Mr. Will has also served as Chairman, President and Chief Executive Officer of EBR Systems, Inc., a privately held company developing a wireless cardiac pacing system for heart failure, from October 2011 to June 2019, and as Executive Chair since June 2019. He also serves as Chair of the board of directors of SetPoint Medical, Inc., a privately held clinical-stage bioelectronics medicine company dedicated to treating patients with chronic autoimmune disease, since March 2011. Since 2014, he has served as a director of Fogarty Innovation, a not-for-profit organization dedicated to advancing human health worldwide. Prior to these roles, Mr. Will served as founding Managing Director of Split Rock Partners' (and its predecessor, St. Paul Venture Capital's) Silicon Valley venture capital office, focusing on the therapeutic medical device field. Previously, Mr. Will founded The Foundry, an incubator dedicated to transforming medical device concepts into companies, where he also served as Chair and Chief Executive Officer from 1998 to 2002 and Chair until 2010, co-founding eleven companies including, among others, Ardian, Inc., a medical device company focused on treating hypertension, which was subsequently acquired by Medtronic plc, and Evalve Inc., a company treating heart failure by repairing mitral valves percutaneously, now a wholly owned subsidiary of Abbott Laboratories. Mr. Will is an inventor on more than 30 issued patents, is a University of Maryland Distinguished Alumnus and a recipient of the ASTIA/Deloitte Excellence in Mentoring Women Executives Award. He served on the MIT Entrepreneurship Center Shareholders' Board and the University of Maryland President's Committee on Innovation and Entrepreneurship. Mr. Will received his M.S. in management from MIT and his B.S. in zoology from the University of Maryland. We believe that Mr. Will is qualified to serve on our board of directors due to his experience as a founder, senior executive and board member of numerous life science companies.

Family Relationships

There are no family relationships among any of our directors or executive officers.

Composition of our Board of Directors

Our board of directors currently consists of eight directors. Our amended and restated certificate of incorporation and amended and restated bylaws will provide that the number of directors on our board of directors will be fixed from time to time by resolution of the board of directors and that our board of directors will be divided into three classes, as nearly equal in number as possible, with the directors in each class serving for a three-year term, and one class being elected each year by our stockholders.

When considering whether directors have the experience, qualifications, attributes or skills, taken as a whole, to enable our board of directors to satisfy its oversight responsibilities effectively in light of our business and structure, the board of directors focuses primarily on each person's background and experience as reflected in the information discussed in each of the directors' individual biographies set forth above. We believe that our directors provide an appropriate mix of experience and skills relevant to the size and nature of our business.

Our amended and restated certificate of incorporation will provide that our board of directors will be divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of stockholders, with the other classes continuing for the remainder of their respective three-year terms. Our current directors will be divided among the three classes as follows:

- the Class I directors will be , and , and their terms will expire at the annual meeting of stockholders to be held in 2024;
- the Class II directors will be , and , and their terms will expire at the annual meeting of stockholders to be held in 2025; and

- the Class III directors will be , and , and their terms will expire at the annual meeting of stockholders to be held in 2026.

Director Independence

Our board of directors has determined that, of our directors, Kelly Barnes, William W. Bradley, Marc Elia, Clive Meanwell, M.B., Ch.B, M.D., Ajay Royan, Amy W. Schulman and Allan R. Will do not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the rules of the Nasdaq Stock Market LLC, or the Nasdaq rules.

Board Leadership Structure

Our board of directors is currently chaired by Alan R. Will. Our corporate governance guidelines provide that, if the chairman of the board is a member of management or does not otherwise qualify as independent, the independent directors of the board may elect a lead director. The lead director's responsibilities include, but are not limited to: presiding over all meetings of the board of directors at which the chairman is not present, including any executive sessions of the independent directors; approving board meeting schedules and agendas; and acting as the liaison between the independent directors and the chief executive officer and chairman of the board. Our corporate governance guidelines further provide the flexibility for our board of directors to modify our leadership structure in the future as it deems appropriate.

Role of the Board in Risk Oversight

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through our board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure and our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. Our audit committee also monitors compliance with legal and regulatory requirements. Our nominating and corporate governance committee monitors the effectiveness of our corporate governance practices, including whether they are successful in preventing illegal or improper liability-creating conduct. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors is regularly informed through committee reports about such risks.

Board Committees

Our board of directors has established three standing committees—audit, compensation and nominating and corporate governance—each of which operates under a charter that will be approved by our board of directors. Upon our listing on the Nasdaq Global Market, each committee's charter has been available under the Corporate Governance section of our website at *www.fractyl.com*. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this prospectus.

Audit Committee

The audit committee's responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;

- overseeing the work of our registered public accounting firm, including through the receipt and consideration of reports from such firm;
- reviewing and discussing with management and the registered public accounting firm our annual and quarterly financial statements and related disclosures;
- coordinating our board of directors' oversight of our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk management policies;
- meeting independently with our internal auditing staff, if any, registered public accounting firm and management;
- reviewing and approving or ratifying any related person transactions; and
- preparing the audit committee report required by SEC rules.

The members of our audit committee are , and . serves as the chairperson of the committee. All members of our audit committee meet the requirements for financial literacy under the applicable Nasdaq rules. Our board of directors has determined that , and meet the independence requirements of Rule 10A-3 under the Exchange Act and the applicable Nasdaq rules. Our board of directors has determined that is an "audit committee financial expert" as defined by applicable SEC rules and has the requisite financial sophistication as defined under the applicable Nasdaq rules.

Compensation Committee

The compensation committee's responsibilities include:

- reviewing and approving, or recommending for approval by the board of directors, the compensation of our Chief Executive Officer and our other executive officers;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to our board of directors with respect to director compensation;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis," to the extent required; and
- preparing the annual compensation committee report required by SEC rules, to the extent required.

The members of our compensation committee are , and . serves as the chairperson of the committee. Our board of directors has determined that each of , and is independent under the applicable Nasdaq rules, including the Nasdaq rules specific to membership on the compensation committee, and is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act.

Nominating and Corporate Governance Committee

The nominating and corporate governance committee's responsibilities include:

- identifying individuals qualified to become board members;

- recommending to our board of directors the persons to be nominated for election as directors and to each board committee;
- developing and recommending to our board of directors corporate governance guidelines, and reviewing and recommending to our board of directors proposed changes to our corporate governance guidelines from time to time; and
- overseeing a periodic evaluation of our board of directors.

The members of our nominating and corporate governance committee and . serves as the chairperson of the committee. Our board of directors has determined that and are independent under the applicable Nasdaq rules.

Compensation Committee Interlocks and Insider Participation

During 2023, the members of our compensation committee were Ajay Royan, Allan R. Will and Clive Meanwell, M.B., Ch.B., M.D. Mr. Royan is affiliated with one of our principal stockholders, Mithril. See "Certain Relationships and Related Person Transactions" for additional information on the securities acquired by Mithril and related agreements such stockholder is party to with us. None of our executive officers currently serves as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our board of directors or compensation committee. None of the members of our compensation committee has ever been employed by us. For a description of transactions between us and members of our compensation committee and affiliates of such members, please see the section of this prospectus titled "Certain Relationships and Related Person Transactions."

Code of Ethics and Code of Conduct

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Upon our listing on the Nasdaq Global Market, our code of business conduct and ethics will be available under the Corporate Governance section of our website at *www.fractyl.com*. In addition, we intend to post on our website all disclosures that are required by law or the Nasdaq rules concerning any amendments to, or waivers from, any provision of the code. The reference to our website address does not constitute incorporation by reference of the information contained at or available through our website, and you should not consider it to be a part of this prospectus.

EXECUTIVE AND DIRECTOR COMPENSATION

This section discusses the material components of the executive compensation program for our executive officers who are named in the 2022 Summary Compensation Table below. In 2022, our named executive officers and their positions were as follows:

- Harith Rajagopalan, M.D., Ph.D., Chief Executive Officer;
- Helmut Giersiefen, Head of Business Development; and
- Sarah Toomey, General Counsel and Corporate Secretary

This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt following the completion of this offering may differ materially from the currently planned programs summarized in this discussion.

2022 Summary Compensation Table

The following table sets forth information concerning the compensation of our named executive officers for the year ended December 31, 2022.

Name and Principal Position	Year	Salary ($)	Option Awards ($)[1]	Non-Equity Incentive Plan Compensation ($)[2]	All Other Compensation ($)[3]	Total ($)
Harith Rajagopalan, M.D., Ph.D.	2022	$550,000[4]	$ 78,602	$ 221,100	—	$ 849,702
Chief Executive Officer	2021	$480,960	$ 997,094	$ 187,209	—	$ 1,664,352
Helmut Giersiefen, Ph.D.[5]	2022	$109,107[6]	$1,214,755	$ 109,471	$ 73,274	$ 1,506,607
Head of Business Development						
Sarah Toomey	2022	$236,923[7]	$1,179,288	$ 73,277	—	$ 1,489,488
General Counsel and Corporate Secretary						

(1) Amounts reflect the full grant-date fair value of option awards granted during 2022 computed in accordance with ASC Topic 718, rather than the amounts paid to or realized by the named individual. We provide information regarding the assumptions used to calculate the value of option awards in Note 12 to the consolidated financial statements included in this prospectus.

(2) Amounts represent the performance bonuses earned for 2022. Dr. Giersiefen's 2022 annual bonus was prorated to reflect his service to the Company in 2022, including his service as a consultant. Ms. Toomey's 2022 annual bonus was prorated to reflect her May 31, 2022 start date. Please refer to "Narrative to Summary Compensation Table—2022 Bonuses" below for additional information regarding our 2022 bonus program.

(3) For 2022, the amount in this column for Dr. Giersiefen represents a monthly car allowance of €1,020 and consulting fees of $70,000 paid for his service as a consultant to the Company from March 1, 2022 through September 30, 2022.

(4) Dr. Rajagopalan's annual base salary increased from $409,763 to $550,000 on July 1, 2021.

(5) Dr. Giersiefen ceased to be considered an executive officer of the Company in November 2023 but continues to be employed by the Company. While an executive officer, Dr. Giersiefen's cash compensation (other than consulting fees) was paid in euros. Numbers shown in the Salary, Non-Equity Incentive Plan Compensation and All Other Compensation columns (other than the consulting fees in the All Other Compensation column) have been converted based on an exchange rate of 1 EUR: 1.07 USD, which was the effective exchange rate on December 30, 2022.

(6) Amount represents salary earned following Dr. Giersiefen's commencement of employment with the Company on October 1, 2022.

(7) Amount represents salary earned following Ms. Toomey's commencement of employment with the Company on May 31, 2022.

Narrative to Summary Compensation Table

2022 Salaries

The named executive officers receive a base salary to compensate them for services rendered to our company. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities. The 2022 annual base salaries for our named executive officers were:

Named Executive Officer	2022 Annual Base Salary ($)
Harith Rajagopalan, M.D., Ph.D.	$ 550,000
Helmut Giersiefen, Ph.D.	$ 436,429(1)
Sarah Toomey	$ 400,000

(1) Dr. Giersiefen is paid in euros. The number shown in the 2022 Annual Base Salary column has been converted based on an exchange rate of 1 EUR: 1.07 USD, which was the effective exchange rate on December 30, 2022.

2022 Bonuses

We offer our named executive officers the opportunity to earn annual cash bonuses to compensate them for attaining short-term goals as approved by our board of directors. For 2022, bonuses were based on attaining corporate and individual goals. Corporate goals for 2022 related to successfully progressing research and development programs toward regulatory milestones and market readiness, while furthering financial strategies. Individual goals for 2022 related to a named executive officer's area of responsibility within the company. For 2022, Dr. Rajagopalan's bonus was based 100% on the achievement of corporate goals, while each of Dr. Giersiefen's and Ms. Toomey's bonus was 75% based on the achievement of corporate goals and 25% based on the achievement of individual goals. Our board of directors approved a 2022 annual target bonus as a percent of base salary for each named executive officer as follows:

- Harith Rajagopalan, M.D., Ph.D.: 60%
- Helmut Giersiefen, Ph.D.: 40%
- Sarah Toomey: 40%

The actual amount of performance bonus earned by each of the named executive officers for 2022 is set forth in the "Non-Equity Incentive Plan Compensation" column of the 2022 Summary Compensation Table above.

Equity Compensation

We have historically granted stock options to our employees, including our named executive officers, as the long-term incentive component of our compensation program. Our stock options generally allow employees to purchase shares of our common stock at a price equal to the fair market value of our common stock on the date of grant, as determined by our board of directors. Stock option grants made to new hires typically vest as to 25% of the underlying shares on the first anniversary of the employment commencement date and in equal monthly installments over the following three years. Stock option grants made to existing employees typically vest in 48 equal monthly installments following the date of grant. Historically, our stock options have been intended to qualify as "incentive stock options" to the extent permitted under the Internal Revenue Code.

The following table sets forth the options granted to our named executive officers during 2022 under our 2011 Stock Incentive Plan, as amended and restated, which we refer to as the 2011 Plan. These stock options

have exercise prices equal to the fair market value of our common stock on the date of grant, as determined by the board of directors. Dr. Rajagopalan's options granted in 2022 are subject to our standard vesting schedule for existing employees described above, and Dr. Giersiefen's and Ms. Toomey's options granted in 2022 vest as to 25% of the underlying shares on the first anniversary of their respective employment commencement dates and in 36 equal monthly installments over the following three years, subject to their continued service through each applicable vesting date.

Named Executive Officer	2022 Options Granted
Harith Rajagopalan, M.D., Ph.D.	35,000
Helmut Giersiefen, Ph.D.	521,897
Sarah Toomey	521,897

Prior to this offering, we intend to adopt a 2024 Incentive Award Plan, referred to below as the 2024 Plan, in order to facilitate the grant of cash and equity incentives to directors, employees (including our named executive officers) and consultants of the Company and certain of its affiliates to enable the Company and certain of its affiliates to obtain and retain services of these individuals, which we consider to be essential to our long-term success. Following the effective date of the 2024 Plan, we will cease making any further grants under the 2011 Plan. However, the 2011 Plan will continue to govern the terms and conditions of the outstanding awards granted under it. For additional information about the 2024 Plan, please see the section titled "Incentive Compensation Plans—2024 Incentive Award Plan" below.

Other Elements of Compensation

Retirement Plan. We currently maintain a 401(k) retirement savings plan for our employees who satisfy certain eligibility requirements. Dr. Rajagopalan and Ms. Toomey, our U.S.-based named executive officers, are eligible to participate in the 401(k) plan on the same terms as other full-time employees. The Internal Revenue Code allows eligible employees to defer a portion of their compensation, within prescribed limits, on a pre-tax basis through contributions to the 401(k) plan. We believe that providing a vehicle for tax-deferred retirement savings though our 401(k) plan adds to the overall desirability of our executive compensation package and further incentivizes our employees, including our named executive officers, in accordance with our compensation policies. For 2022, we did not make any employer contributions to the 401(k) plan.

Health and Welfare Plans. Dr. Rajagopalan and Ms. Toomey are eligible to participate in our health and welfare plans, including medical, dental and vision benefits, medical and dependent care flexible spending accounts, short-term and long-term disability insurance and life insurance and accidental death & dismemberment insurance, on the same terms as our other U.S.-based full time employees. Pursuant to his employment agreement, we have agreed to reimburse Dr. Giersiefen for 50% of the cost of private medical insurance he elects to purchase. Dr. Giersiefen did not elect to purchase private insurance for 2022, and, therefore, no such reimbursement was made by us for 2022.

Executive Compensation Arrangements

Prior to this offering, we intend to enter into employment agreements with Dr. Rajagopalan, Dr. Giersiefen and Ms. Toomey that will supersede their prior agreements with us. The material terms of these agreements will be described in this prospectus once they are finalized.

Outstanding Equity Awards at 2022 Fiscal Year-End

The following table summarizes the number of shares of common stock underlying outstanding equity incentive plan awards for each named executive officer as of December 31, 2022.

		Option Awards			
Name	Vesting Start Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable(1)	Option Exercise Price ($)	Option Expiration Date
Harith Rajagopalan, M.D., Ph.D.(1)	—	502,069	—	0.38	10/15/2023
	—	409,820	—	0.79	11/10/2024
	—	265,000	—	0.79	2/09/2025
	—	740,538	—	1.24	12/16/2025
	—	386,000	—	1.24	6/26/2026
	—	906,634	—	1.56	3/13/2028
	3/26/2020	445,986	573,412	1.81	3/25/2030
	6/24/2021	70,533	493,732	3.25	6/23/2031
	9/07/2022	2,187	32,813	4.00	9/06/2032
Helmut Giersiefen, Ph.D.(2)	10/01/2022	0	521,897	4.00	11/01/2032
Sarah Toomey(2)	5/31/2022	0	521,897	4.00	9/06/2032

(1) Dr. Rajagopalan's options vest in 48 equal monthly installments following the vesting start date, subject to his continued service through each applicable vesting date.

(2) Dr. Giersiefen's and Ms. Toomey's options vest as to 25% of the underlying shares on the first anniversary of in the vesting start date and in 36 equal monthly installments over the following three years, subject to continued service through each applicable vesting date.

Director Compensation

None of our non-employee directors received cash compensation from us during 2022. Dr. Rajagopalan does not receive compensation for his service as a director. His compensation for service as an executive officer during 2022 is disclosed in the 2022 Summary Compensation Table and related narrative disclosure.

In September 2022, Messrs. Will and Bradley and Ms. Schulman each received an option to purchase 15,000 shares of our common stock, with an exercise price of $4.00 per share, that vests in 36 equal monthly installments following September 7, 2022, subject to continued service with us on each applicable vesting date. In March 2022, Ms. Barnes received an option to purchase 100,000 shares of our common stock in connection with her commencement of service on the board, with an exercise price of $5.52 per share, that vests as to 33% of the underlying shares on January 11, 2023 and as to the remaining shares in 24 equal monthly installments thereafter, subject to continued service with us on each applicable vesting date. In September 2022, the exercise price of the option granted to Ms. Barnes was reduced to $4.00.

2022 Director Compensation Table

The following table sets forth information concerning the compensation of non-employee directors for the year ended December 31, 2022.

Name	Options Award ($)[1][2]	Total ($)
Kelly Barnes	359,016	359,016
William W. Bradley	33,626	33,626
Brian Dovey[3]	—	—
Marc Elia	—	—
Clive Meanwell, M.B., Ch.B, M.D.	—	—
Ajay Royan	—	—
Amy W. Schulman	33,626	33,626
Allan R. Will	33,626	33,626

(1) Amounts reflect the full grant-date fair value of option awards granted during 2022 computed in accordance with ASC Topic 718, rather than the amounts paid to or realized by the named individual. With respect to Ms. Barnes, the amount also includes $31,500, which is the incremental fair value, computed in accordance with ASC Topic 718, of the September 2022 modification made to her stock option granted in March 2022. We provide information regarding the assumptions used to calculate the value of option awards in Note 12 to the consolidated financial statements included in this prospectus.

(2) The table below shows aggregate numbers of option awards (exercisable and unexercisable) and unvested stock awards held as of December 31, 2022 by each of our non-employee directors who was serving as of December 31, 2022.

(3) Mr. Dovey ceased to serve as a member of our Board of Directors upon his passing on August 27, 2023.

Name	Options Award (#)	Stock Awards (#)
Kelly Barnes	100,000	—
William W. Bradley[1]	878,988	—
Brian Dovey	—	—
Marc Elia	—	—
Clive Meanwell, M.B., Ch.B, M.D.	—	—
Ajay Royan	—	—
Amy W. Schulman	282,127	—
Allan R. Will	905,422	—

(1) Includes 400,000 options that are held in the name of a trust for the benefit of a family member.

Effective upon this offering, we intend to approve and implement a compensation program for our non-employee directors that consists of annual retainer fees and long-term equity awards. The material terms of this program will be described in this prospectus once they are finalized.

Incentive Compensation Plans

The following summarizes the material terms of the 2024 Plan and the 2024 Employee Stock Purchase Plan, or the ESPP, which will be the long-term incentive compensation plans in which our directors and named executive officers are eligible to participate following the consummation of this offering, and the 2011 Plan, under which we have previously made periodic grants of equity and equity-based awards to our directors and named executive officers.

2024 Incentive Award Plan

Effective the day prior to the first public trading date of our common stock, we intend to adopt and ask our stockholders to approve the 2024 Plan, under which we may grant cash and equity-based incentive awards to eligible service providers in order to attract, retain and motivate the persons who make important contributions to our company. The material terms of the 2024 Plan are summarized below.

Eligibility and Administration

Our employees, consultants and directors, and employees and consultants of our subsidiaries, will be eligible to receive awards under the 2024 Plan. The 2024 Plan will be administered by our board of directors, which may delegate its duties and responsibilities to one or more committees of our directors and/or officers (referred to collectively as the plan administrator below), subject to the limitations imposed under the 2024 Plan, Section 16 of the Exchange Act, stock exchange rules and other applicable laws. The plan administrator will have the authority to take all actions and make all determinations under the 2024 Plan, to interpret the 2024 Plan and award agreements and to adopt, amend and repeal rules for the administration of the 2024 Plan as it deems advisable. The plan administrator will also have the authority to grant awards, determine which eligible service providers receive awards and set the terms and conditions of all awards under the 2024 Plan, including any vesting and vesting acceleration provisions, subject to the conditions and limitations in the 2024 Plan.

Shares Available for Awards

An aggregate of shares of our common stock will initially be available for issuance under the 2024 Plan. The number of shares initially available for issuance will automatically increase on January 1 of each calendar year beginning in 2025 and ending in and including 2034, equal to the lesser of (A) % of the shares of common stock outstanding on the final day of the immediately preceding calendar year and (B) a smaller number of shares determined by our board of directors. No more than shares of common stock may be issued under the 2024 Plan upon the exercise of incentive stock options. Shares issued under the 2024 Plan may be authorized but unissued shares, shares purchased on the open market or treasury shares.

If an award under the 2024 Plan or the 2011 Plan, expires, lapses or is terminated, exchanged for cash, surrendered, repurchased, canceled without having been fully exercised or forfeited, any unused shares subject to the award will, as applicable, become or again be available for new grants under the 2024 Plan. Awards granted under the 2024 Plan in substitution for any options or other stock or stock-based awards granted by an entity before the entity's merger or consolidation with us or our acquisition of the entity's property or stock will not reduce the shares available for grant under the 2024 Plan, but may count against the maximum number of shares that may be issued upon the exercise of incentive stock options, or ISOs.

Awards

The 2024 Plan provides for the grant of ISOs, nonqualified stock options, or NSOs, stock appreciation rights, or SARs, restricted stock, dividend equivalents, restricted stock units, or RSUs, and other stock or cash-based awards. Certain awards under the 2024 Plan may constitute or provide for payment of "nonqualified deferred compensation" under Section 409A of the Code. All awards under the 2024 Plan will be set forth in award agreements, which will detail the terms and conditions of awards, including any applicable vesting and payment terms and post-termination exercise limitations. A brief description of each award type follows:

- *Stock Options and SARs*. Stock options provide for the purchase of shares of our common stock in the future at an exercise price set on the grant date. ISOs, by contrast to NSOs, may provide tax deferral beyond exercise and favorable capital gains tax treatment to their holders if certain holding period and other requirements of the Code are satisfied. SARs entitle their holder, upon exercise, to receive from us an amount equal to the appreciation of the shares subject to the award between the grant date and the exercise date. The plan administrator will determine the number of shares covered by each option and SAR, the exercise price of each option and SAR and the conditions and limitations applicable to the exercise of each option and SAR. The exercise price of a stock option or SAR will not be less than 100% of the fair market value of the underlying share on the grant date (or 110% in the case of ISOs granted to certain significant stockholders), except with respect to certain substitute awards granted in connection with a corporate transaction. The term of a stock option or SAR may not be longer than ten years (or five years in the case of ISOs granted to certain significant stockholders).

- *Restricted Stock and RSUs*. Restricted stock is an award of nontransferable shares of our common stock that remain forfeitable unless and until specified conditions are met and which may be subject to a purchase price. RSUs are contractual promises to deliver shares of our common stock in the future, which may also remain forfeitable unless and until specified conditions are met and may be accompanied by the right to receive the equivalent value of dividends paid on shares of our common stock prior to the delivery of the underlying shares. The plan administrator may provide that the delivery of the shares underlying RSUs will be deferred on a mandatory basis or at the election of the participant. The terms and conditions applicable to restricted stock and RSUs will be determined by the plan administrator, subject to the conditions and limitations contained in the 2024 Plan.

- *Other Stock or Cash Based Awards*. Other stock or cash-based awards are awards of cash, fully vested shares of our common stock and other awards valued wholly or partially by referring to, or otherwise based on, shares of our common stock or other property. Other stock or cash-based awards may be granted to participants and may also be available as a payment form in the settlement of other awards, as standalone payments and as payment in lieu of compensation to which a participant is otherwise entitled. The plan administrator will determine the terms and conditions of other stock or cash-based awards, which may include any purchase price, performance goal, transfer restrictions and vesting conditions.

Performance Criteria

The plan administrator may select performance criteria for an award to establish performance goals for a performance period. Performance criteria under the 2024 Plan may include, but are not limited to, the following: net earnings or losses (either before or after one or more of interest, taxes, depreciation, amortization, and non-cash equity-based compensation expense); gross or net sales or revenue or sales or revenue growth; net income (either before or after taxes) or adjusted net income; profits (including but not limited to gross profits, net profits, profit growth, net operation profit or economic profit), profit return ratios or operating margin; budget or operating earnings (either before or after taxes or before or after allocation of corporate overhead and bonus); cash flow (including operating cash flow and free cash flow or cash flow return on capital); return on assets; return on capital or invested capital; cost of capital; return on stockholders' equity; total stockholder return; return on sales; costs, reductions in costs and cost control measures; expenses; working capital; earnings or loss per share; adjusted earnings or loss per share; price per share or dividends per share (or appreciation in or maintenance of such price or dividends); regulatory achievements or compliance; implementation, completion or attainment of objectives relating to research, development, regulatory, commercial, or strategic milestones or developments; market share; economic value or economic value added models; division, group or corporate financial goals; customer satisfaction/growth; customer service; employee satisfaction; recruitment and maintenance of personnel; human resources management; supervision of litigation and other legal matters; strategic partnerships and transactions; financial ratios (including those measuring liquidity, activity, profitability or leverage); debt levels or reductions; sales-related goals; financing and other capital raising transactions; cash on hand; acquisition activity; investment sourcing activity; and marketing initiatives, any of which may be measured in absolute terms or as compared to any incremental increase or decrease. Such performance goals also may be based solely by reference to the company's performance or the performance of a subsidiary, division, business segment or business unit of the company or a subsidiary, or based upon performance relative to performance of other companies or upon comparisons of any of the indicators of performance relative to performance of other companies. When determining performance goals, the plan administrator may provide for exclusion of the impact of an event or occurrence which the plan administrator determines should appropriately be excluded, including, without limitation, non-recurring charges or events, acquisitions or divestitures, changes in the corporate or capital structure, events unrelated to the business or outside of the control of management, foreign exchange considerations, and legal, regulatory, tax or accounting changes.

Certain Transactions

In connection with certain corporate transactions and events affecting our common stock, including a change in control, or change in any applicable laws or accounting principles, the plan administrator has broad discretion to take action under the 2024 Plan to prevent the dilution or enlargement of intended benefits, facilitate the transaction or event or give effect to the change in applicable laws or accounting principles. This includes canceling awards for cash or property, accelerating the vesting of awards, providing for the assumption or substitution of awards by a successor entity, adjusting the number and type of shares subject to outstanding awards and/or with respect to which awards may be granted under the 2024 Plan and replacing or terminating awards under the 2024 Plan. In addition, in the event of certain non-reciprocal transactions with our stockholders, the plan administrator will make equitable adjustments to awards outstanding under the 2024 Plan as it deems appropriate to reflect the transaction.

Provisions of the 2024 Plan Relating to Director Compensation

The 2024 Plan provides that the plan administrator may establish compensation for non-employee directors from time to time subject to the 2024 Plan's limitations. Prior to commencing this offering, we intend to approve and implement a compensation program for our non-employee directors, which is described above under the heading "Director Compensation." Our board of directors (or its authorized committee) may modify the non-employee director compensation program from time to time in the exercise of its business judgment, taking into account such factors, circumstances and considerations as it shall deem relevant from time to time, provided that the sum of any cash compensation or other compensation and the grant date fair value of any equity awards granted under the 2024 Plan as compensation for services as a non-employee director during any fiscal year may not exceed $ in the fiscal year of the non-employee director's initial service and $ in any other fiscal year. The plan administrator may make exceptions to this limit for individual non-employee directors in extraordinary circumstances, as the plan administrator may determine in its discretion, subject to the limitations in the 2024 Plan.

Plan Amendment and Termination

Our board of directors may amend or terminate the 2024 Plan at any time; however, no amendment, other than an amendment that increases the number of shares available under the 2024 Plan, may materially and adversely affect an award outstanding under the 2024 Plan without the consent of the affected participant and stockholder approval will be obtained for any amendment to the extent necessary to comply with applicable laws. Further, the plan administrator may, without the approval of our stockholders, amend any outstanding stock option or SAR to reduce its price per share, other than in the context of corporate transactions or equity restructurings, as described above. The 2024 Plan will remain in effect until the tenth anniversary of its effective date, unless earlier terminated by our board of directors. No awards may be granted under the 2024 Plan after its termination.

Foreign Participants, Claw-Back Provisions, Transferability and Participant Payments

The plan administrator may modify awards granted to participants who are foreign nationals or employed outside the United States or establish subplans or procedures to address differences in laws, rules, regulations or customs of such foreign jurisdictions. All awards will be subject to any company claw-back policy as set forth in such claw-back policy or the applicable award agreement. Except as the plan administrator may determine or provide in an award agreement, awards under the 2024 Plan are generally non-transferrable, except by will or the laws of descent and distribution, or, subject to the plan administrator's consent, pursuant to a domestic relations order, and are generally exercisable only by the participant. With regard to tax withholding obligations arising in connection with awards under the 2024 Plan and exercise price obligations arising in connection with the exercise of stock options under the 2024 Plan, the plan administrator may, in its discretion, accept cash, wire transfer or check, shares of our common stock that meet specified conditions, a promissory note, a "market sell order," such other consideration as the plan administrator deems suitable or any combination of the foregoing.

2024 Employee Stock Purchase Plan

Effective the day prior to the first public trading date of our common stock, we intend to adopt and ask our stockholders to approve the ESPP, the material terms of which are summarized below.

Shares Available for Awards; Administration

A total of shares of our common stock will initially be reserved for issuance under the ESPP. In addition, the number of shares available for issuance under the ESPP will be annually increased on January 1 of each calendar year beginning in 2025 and ending in and including 2034, by an amount equal to the lesser of (A) % of the shares outstanding on the final day of the immediately preceding calendar year and (B) such smaller number of shares as is determined by our board of directors, provided that no more than shares of our common stock may be issued under the ESPP. Our board of directors or a committee of our board of directors will administer and will have authority to interpret the terms of the ESPP and determine eligibility of participants. We expect that the compensation committee will be the initial administrator of the ESPP.

Eligibility

All of our employees are eligible to participate in the ESPP, unless the administrator determines to limit participation in accordance with the terms of the ESPP and provided that an employee may not be granted rights to purchase stock under our ESPP if the employee, immediately after the grant, would own (directly or through attribution) stock possessing 5% or more of the total combined voting power or value of all classes of our stock.

Grant of Rights

The ESPP is intended to qualify under Section 423 of the Code and stock will be offered under the ESPP during offering periods. The length of the offering periods under the ESPP will be determined by the plan administrator and may be up to twenty-seven months long. Employee payroll deductions will be used to purchase shares on each purchase date during an offering period. The purchase dates for each offering period will be the final trading day in the offering period. Offering periods under the ESPP will commence when determined by the plan administrator. The plan administrator may, in its discretion, modify the terms of future offering periods.

The ESPP permits participants to purchase common stock through payroll deductions of up to a specified percentage of their eligible compensation. The plan administrator will establish a maximum number of shares that may be purchased by a participant during any offering period. In addition, no employee will be permitted to accrue the right to purchase stock under the ESPP at a rate in excess of $25,000 worth of shares during any calendar year during which such a purchase right is outstanding (based on the fair market value per share of our common stock as of the first day of the offering period).

On the first trading day of each offering period, each participant will automatically be granted an option to purchase shares of our common stock. The option will expire at the end of the applicable offering period, and will be exercised at that time to the extent of the payroll deductions accumulated during the offering period. The purchase price of the shares, in the absence of a contrary designation, will be 85% of the lower of the fair market value of our common stock on the first trading day of the offering period or on the purchase date. Participants may voluntarily end their participation in the ESPP at any time during a specified period prior to the end of the applicable offering period, and will be paid their accrued payroll deductions that have not yet been used to purchase shares of common stock. Participation ends automatically upon a participant's termination of employment.

A participant may not transfer options granted under the ESPP other than by will or the laws of descent and distribution, and options granted under the ESPP are generally exercisable only by the participant.

Certain Transactions

In the event of certain non-reciprocal transactions or events affecting our common stock, the plan administrator will make equitable adjustments to the ESPP and outstanding rights. In the event of certain unusual or non-recurring events or transactions, including a change in control, the plan administrator may provide for (1) either the replacement of outstanding rights with other rights or property or termination of outstanding rights in exchange for cash, (2) the assumption or substitution of outstanding rights by the successor or survivor corporation or parent or subsidiary thereof, if any, (3) the adjustment in the number and type of shares of stock subject to outstanding rights, (4) the use of participants' accumulated payroll deductions to purchase stock on a new purchase date prior to the next scheduled purchase date and termination of any rights under ongoing offering periods or (5) the termination of all outstanding rights.

Plan Amendment

The plan administrator may amend, suspend or terminate the ESPP at any time. However, stockholder approval will be obtained for any amendment that increases the aggregate number or changes the type of shares that may be sold pursuant to rights under the ESPP, changes the corporations or classes of corporations whose employees are eligible to participate in the ESPP or changes the ESPP in any manner that would cause the ESPP to no longer be an employee stock purchase plan within the meaning of Section 423(b) of the Code.

2011 Stock Incentive Plan

Our board of directors and stockholders have approved the 2011 Plan, under which we may grant stock options and other stock-based awards to employees, directors and consultants of our company or its affiliates. We have reserved a total of shares of our common stock for issuance under the 2011 Plan.

Following the effectiveness of the 2024 Plan, we will not make any further grants under the 2011 Plan. However, the 2011 Plan will continue to govern the terms and conditions of the outstanding awards granted under it. As discussed above, we anticipate that shares of our common stock subject to awards granted under the 2011 Plan that are forfeited, lapse unexercised or are settled in cash will again be available for issuance under the 2024 Plan.

Eligibility and Administration

Our employees, officers, directors, consultants and advisors are eligible to be granted awards under the 2011 Plan. Our board of directors administers the 2011 Plan and has the authority to determine recipients of awards and the terms of awards granted under the 2011 Plan, to interpret the 2011 Plan and awards outstanding thereunder, and to make changes to awards outstanding under the 2011 Plan, provided that such changes may not impair a participant's rights under the plan without the participant's consent. The board of directors may delegate its authority under the 2011 Plan to a committee.

Types of Awards

The 2011 Plan provides for the grant of non-qualified and incentive stock options, restricted stock, RSUs and other stock-based awards to eligible participants. As of the date of this prospectus, awards of stock options and RSUs are outstanding under the 2011 Plan.

Certain Transactions

If certain changes are made in, or events occur with respect to, our common stock, the 2011 Plan and outstanding awards will be appropriately adjusted in the class, number and, as applicable, exercise price of securities as determined by the plan administrator. In the event of certain corporate transactions of our company,

including a consolidation, merger, or a liquidation, our board of directors may make appropriate provision for the assumption or equitable substitution of outstanding awards, provide for the assumption or replacement of outstanding stock options, terminate awards for a cash payment equal to the excess of the fair market value of the underlying shares over the exercise or purchase price of the applicable award or provide that all stock options will terminate if not exercised within a specified number of days. The vesting and exercisability of awards may accelerate in connection with such a transaction, either by action of the plan administrator or under the terms of the applicable award agreements.

Amendment and Termination

The plan administrator may amend, suspend or terminated the 2011 Plan or any portion thereof from time to time, provided that the board of directors determines that any amendment does not materially and adversely affect the rights of participants under the 2011 Plan. Any amendment the plan administrator determines requires stockholder approval under the Internal Revenue Code will be subject to approval by our stockholders. The 2011 Plan will terminate on June 9, 2031, if not earlier terminated by the board of directors.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following includes a summary of transactions since January 1, 2021 to which we have been a party in which the amount involved exceeded or will exceed $120,000, and in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5% of our capital stock, or 5% Security Holders, or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under "Executive and Director Compensation." We also describe below certain other transactions with our directors, executive officers and stockholders.

Related Party Agreements in Effect Prior to this Offering

July 2023 Warrants

In July 2023, we issued warrants to purchase common stock to lenders under our 2022 Convertible Notes for a variable number of shares based on the principal amount of $20.9 million. The July 2023 warrants have an exercise price, at the holders' choice, of (a) $8.3843 per share, (b) the lowest original issue price of shares of preferred stock we issue in our next bona fide private preferred equity financing round, (c) in the event of any convertible note, or similar convertible security financing, the conversion price contemplated by such convertible security, or (d) in the event of an IPO, the per share offering price to the public in such IPO.

CVF, LLC holds 1,246,328 shares of common stock issuable upon the exercise of the July 2023 warrants at an assumed exercise price of $8.3843.

Series F Preferred Stock

In June and July 2021, we issued and sold to investors in a private placement an aggregate of 11,927,048 shares of Series F Preferred Stock at a purchase price of $8.3843 per share, for aggregate consideration of approximately $100.0 million.

The following table sets forth the aggregate number of Series F Preferred Stock acquired by 5% Security Holders in the financing transactions described above.

Participants[1]	Series F Preferred Stock	Aggregate Purchase Price (in thousands)
Entities affiliated with Mithril[2]	1,598,225	$ 13,400
CVF, LLC	333,957	$ 2,800
Entities affiliated with Marc Elia[3]	2,981,763	$ 25,000
Entities affiliated with Clive Meanwell, M.B., Ch.B, M.D.[4]	596,352	$ 5,000

(1) Additional details regarding these stockholders and their equity holdings are provided in this prospectus under the caption "Principal Stockholders."

(2) Consists of 1,598,225 shares of Series F Preferred Stock purchased by Mithril II LP. Mithril II UGP LLC is the general partner of Mithril II GP LP, which is the general partner of Mithril II LP. Ajay Royan, one of our directors, is the sole managing member of Mithril II UGP LLC.

(3) Consists of 954,164 shares of Series F Preferred Stock purchased by Sparviero LP and 2,027,599 shares of Series F Preferred Stock purchased by M28 Capital Master Fund LP.

(4) Consists of 596,352 shares of Series F Preferred Stock purchased by Population Health Capital Partners II, L.P.

Amended and Restated Investors' Rights Agreement

In connection with the issuance of our Series F Preferred Stock in June and July 2021, we entered into a Fifth Amended and Restated Investors' Rights Agreement, or the IRA, with certain holders of our preferred stock,

many of which are beneficial holders of more than 5% of our capital stock or are entities with which certain of our directors are affiliated. The IRA imposes certain affirmative obligations on us and also grants certain rights to holders, including certain registration rights with respect to the securities held by them, certain information and observer rights, and certain additional rights. Certain provisions of the IRA will terminate in connection with this offering. See "Description of Capital Stock—Registration Rights" for additional information.

Amended and Restated Voting Agreement

We are a party to an amended and restated voting agreement with certain of our stockholders, pursuant to which each of our directors was elected to serve as members on our board of directors and, as of the date of this prospectus, continue to so serve. Our voting agreement will terminate by its terms in connection with the closing of this offering, and members previously elected to our board of directors pursuant to this voting agreement will continue to serve as directors until they resign, are removed or their successors are duly elected by the holders of our common stock. The composition of our board of directors after this offering is described in more detail under "Management—Composition of our Board of Directors.

The Voting Agreement, including its provisions concerning the rights of certain of the holders to designate directors, will automatically terminate upon the consummation of this offering.

Amended and Restated Right of First Refusal and Co-Sale Agreement

In connection with the issuance of our Series F Preferred Stock in June and July 2021, we entered into a Fifth Amended and Restated Right of First Refusal and Co-Sale Agreement, or the ROFR and Co-Sale Agreement, with certain of our preferred stockholders, many of which are beneficial holders of more than 5% of our capital stock or are entities with which certain of our directors are affiliated. The ROFR and Co-Sale Agreement, among other things: (a) grants our investors certain rights of first refusal and co-sale with respect to proposed transfers of our securities by certain preferred stockholders; and (b) grants us certain rights of first refusal with respect to proposed transfers of our securities by certain preferred stockholders.

The ROFR and Co-Sale Agreement will automatically terminate immediately prior to the completion of this offering.

Employment Agreements

We have entered into employment agreements or consulting agreements with certain of our executive officers. See "Executive and Director Compensation—Executive Compensation Arrangements."

Director and Officer Indemnification and Insurance

Prior to the consummation of this offering, we intend to enter into separate indemnification agreements with each of our directors and executive officers. We have also purchased directors' and officers' liability insurance. See "Description of Capital Stock—Limitations on Liability and Indemnification of Officers and Directors."

Policies and Procedures for Related Person Transactions

Our board of directors has adopted a written related person transaction policy, to be effective immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, setting forth the policies and procedures for the review and approval or ratification of related person transactions. This policy will cover, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we were or are to be a participant, where the amount involved exceeds $120,000 in any fiscal year and a related person had, has or will have a direct or indirect material interest, including without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness and employment by us of a related person. In reviewing and approving any such transactions, our audit committee is tasked to consider all relevant facts and circumstances, including, but not limited to, whether the transaction is on terms comparable to those that could be obtained in an arm's length transaction and the extent of the related person's interest in the transaction. All of the transactions described in this section occurred prior to the adoption of this policy.

PRINCIPAL STOCKHOLDERS

The following table sets forth information as of September 30, 2023 with respect to the beneficial ownership of our common stock by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our outstanding shares of common stock;
- each of our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

The number of shares beneficially owned by each stockholder is determined in accordance with the rules issued by the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power, which includes the power to dispose of or to direct the disposition of such security. Except as indicated in the footnotes below, we believe, based on the information furnished to us, that the individuals and entities named in the table below have sole voting and investment power with respect to all shares of common stock beneficially owned by them, subject to any community property laws.

Percentage ownership of our common stock before this offering is based on 82,490,366 shares of common stock outstanding as of September 30, 2023, assuming the conversion of all outstanding shares of our convertible preferred stock into 77,994,156 shares of our common stock, which will occur immediately prior to the closing of this offering. Percentage ownership of our common stock after this offering is based on our issuance of shares of our common stock in this offering and the issuance of shares of common stock upon the automatic settlement of the 2022 Convertible Notes, including accrued interest, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, in connection with the closing of this offering. In computing the number of shares beneficially owned by an individual or entity and the percentage ownership of that person, shares of common stock subject to options, RSUs, warrants or other rights held by such person that are currently exercisable or vested, or will become exercisable or vest within 60 days of September 30, 2023 are considered outstanding, although these shares are not considered outstanding for purposes of computing the percentage ownership of any other person. Unless noted otherwise, the address of all listed stockholders is c/o Fractyl Health, Inc., 17 Hartwell Avenue Lexington, Massachusetts 02421.

Name of Beneficial Owner	Shares Beneficially Owned Prior to Offering		Shares Beneficially Owned After Offering	
	Number	Percentage	Number	Percentage
5% or Greater Stockholders				
Entities affiliated with Mithril(1)	13,045,256	15.8%		%
Entities affiliated with General Catalyst(2)	10,481,479	12.7		
Entities affiliated with Bessemer Venture Partners(3)	10,238,372	12.4		
Entities affiliated with Domain Associates, L.L.C.(4)	8,590,741	10.4		
CVF, LLC(5)	8,585,385	10.3		
Named Executive Officers and Directors				
Harith Rajagopalan, M.D., Ph.D.(6)	6,095,224	7.0		
Helmut Giersiefen, Ph.D.(7)	141,347	*		
Sarah Toomey(8)	221,543	*		
Kelly Barnes	65,555	*		
William W. Bradley(9)	874,265	1.0		
Entities affiliated with Marc Elia(10)	2,981,763	3.6		
Entities affiliated with Clive Meanwell, M.B., Ch.B., M.D.(11)	596,352	*		
Ajay Royan(1)	13,045,256	15.8		
Amy W. Schulman(12)	277,404	*		
Allan R. Will(13)	438,151	*		
All current executive officers and directors as a group (13 persons)(14)	27,882,329	30.8		

* Represents beneficial ownership of less than 1%.

(1) Consists of (a) 4,025,764 shares of common stock issuable upon conversion of Series C-1 Preferred Stock purchased by Mithril LP, (b) 6,502,796 shares of common stock issuable upon conversion of Series C-2 Preferred Stock purchased by Mithril LP, (c) 545,450 shares of common stock issuable upon conversion of Series D Preferred Stock purchased by Mithril LP, (d) 373,021 shares of common stock issuable upon conversion of Series E Preferred Stock purchased by Mithril II LP and (e) 1,598,225 shares of common stock issuable upon conversion of Series F Preferred Stock purchased by Mithril II LP. Mithril GP LP is the general partner of Mithril LP and Mithril GP LP may be deemed to have shared voting, investment and dispositive power with respect to the securities held by Mithril LP. Mithril II UGP LLC is the general partner of Mithril II GP LP, which is the general partner of Mithril II LP and each of Mithril II UGP LLC and Mithril II GP LP may be deemed to have shared voting, investment and dispositive power with respect to the securities held by Mithril II LP. Ajay Royan is the authorized person of Mithril GP LP and is the sole managing member of Mithril II UGP LLC. Ajay Royan and Peter Thiel are the members of the investment committees of Mithril GP LP and Mithril II GP LP, respectively. Each of the investment committees makes all investment decisions with respect to the shares held by each of Mithril LP and Mithril II LP, respectively, and may be deemed to have shared voting, investment and dispositive power with respect to the securities held by each of Mithril LP and Mithril II LP. The address of the principal offices of each of these entities is c/o Mithril Capital Management LLC, 600 Congress Avenue, Suite 3100, Austin, TX 78701.

(2) Consists of (i) 176,320 shares of common stock held of record by General Catalyst Group V, L.P., or GCGV, (ii) 3,680 shares of common stock held of record by GC Entrepreneurs Fund V, L.P., or GCEV, (iii) 10,090,845 shares of common stock issuable upon conversion of convertible preferred stock purchased by GCGV, and (iv) 210,634 shares of common stock issuable upon conversion of convertible preferred stock purchased by GCEV.

General Catalyst GP V, LLC, or GCGPV, is the general partner of General Catalyst Partners V, L.P., which is the general partner of GCGV and GCEV. GCGPV is controlled by a group of three or more individuals, or the Managing Directors, having shared voting and dispositive control over the shares held by GCGV and GCEV.

Under the so-called "rule of three," because voting and dispositive decisions are made by a majority of GCGPV Managing Directors, no one of the Managing Directors is deemed to be a beneficial owner of the Company's securities held by GCGV and GCEV.

The principal business address of the foregoing entities and persons is 20 University Road, Suite 450, Cambridge, MA 02138.

(3) Consists of (i) 3,276,280 shares of common stock issuable upon the deemed conversion of shares of the convertible preferred stock held of record by Bessemer Venture Partners VII L.P. (BVP VII), (ii) 1,433,372 shares of common stock issuable upon the deemed conversion of shares of the convertible preferred stock held of record by Bessemer Venture Partners VII Institutional L.P. (BVP VII Institutional) and (iii) 5,528,720 shares of common stock issuable upon the deemed conversion of shares of the convertible preferred stock held of record by BVP VII Special Opportunity Fund L.P. (BVP SOF, and together with BVP VII and BVP VII Institutional, the BVP Entities). Deer VII & Co. L.P. (Deer VII L.P.) is the general partner of the BVP Entities. Deer VII & Co. Ltd. (Deer VII Ltd.) is the general partner of Deer VII L.P. Robert P. Goodman, David Cowan, Jeremy Levine, Byron Deeter and Robert M. Stavis are the directors of Deer VII Ltd. and hold the voting and dispositive power for the BVP Entities. Investment and voting decisions with respect to the shares held by the BVP Entities are made by the directors of Deer VII Ltd. acting as an investment committee. The address of each of these entities is c/o Bessemer Venture Partners, 1865 Palmer Ave., Suite 104, Larchmont, NY 10538.

(4) Consists of 8,527,466 shares of common stock issuable upon conversion of convertible preferred stock held by Domain Partners VIII, L.P. (Domain VIII) and 63,275 shares of common stock issuable upon conversion of convertible preferred stock held by DP VIII Associates, L.P. (DP VIII). The managing members of One Palmer Square Associates VIII, L.L.C. share voting and investment power with respect to shares beneficially owned by Domain VIII and DP VIII. The address of Domain VIII and DP VIII is 103 Carnegie Center, Suite 300, Princeton, NJ 08540.

(5) Consists of (i) 7,339,057 shares of common stock issuable upon conversion of convertible preferred stock, (ii) 1,246,328 shares of common stock issuable upon exercise of the July 2023 warrants at an assumed exercise price of $8.3843, and (iii) shares of common stock issuable upon the automatic settlement of the 2022 Convertible Notes in the aggregate principal amount of $, including accrued interest, assuming an initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, in connection with the closing of this offering held by CVF, LLC. Richard H. Robb, manager of CVF, LLC, exercises voting and investment power with respect to the shares held by CVF, LLC. The address of CVF, LLC is 222 N. LaSalle Street, Suite 2000, Chicago, IL 60601.

(6) Consists of (i) 1,423,000 shares of common stock and common stock issuable upon conversion of convertible preferred stock, (ii) 667,000 shares of common stock and common stock issuable upon conversion of convertible preferred stock held by various family trusts for which Harith Rajagopalan serves as the Investment Advisor and, as a result, exercises voting and dispositive power with respect to such shares, and (iii) 4,005,224 shares of common stock underlying options exercisable within 60 days from September 30, 2023.

(7) Consists of 141,347 shares of common stock underlying options exercisable within 60 days from September 30, 2023.

(8) Consists of 221,543 shares of common stock underlying options exercisable within 60 days from September 30, 2023.

(9) Consists of (i) 400,000 shares of common stock underlying options exercisable within 60 days from September 30, 2023 held of record by the Hillcrest Irrevocable Trust, where Sen. Bradley serves as sole trustee, and (ii) 474,265 shares of common stock underlying options exercisable within 60 days from September 30, 2023.

(10) Consists of 2,027,599 shares of common stock issuable upon conversion of Series F Preferred Stock held by M28 Capital Master Fund LP, or M28 Capital, and 954,164 shares of common stock issuable upon

conversion of Series F Preferred Stock held by Sparviero LP. Marc Elia, a member of our Board of Directors, is a managing member of M28 Capital Fund GP LLC, the general partner of M28 Capital and Sparviero LP, and, as a result, may be deemed to share voting and investment power with respect to the shares held by each. Mr. Elia disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein. The address of M28 Capital and Sparviero LP is 700 Canal Street, 2nd Floor, Stamford, Connecticut 06902.

(11) Consists of 596,352 shares of common stock issuable upon conversion of Series F Preferred Stock held by Population Health Capital Partners II, L.P., or PHPII. Clive Meanwell, M.B., Ch.B., M.D., a member of our Board of Directors, is the Founder of Population Health Partners GP, LLC, the general partner of PHPII, and, as a result, may be deemed to share voting and investment power with respect to the shares held by PHPII. Dr. Meanwell disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein. The address of PHPII is 50 Mountaintop Road, Bernardsville, New Jersey 07924.

(12) Consists of 277,404 shares of common stock underlying options exercisable within 60 days from September 30, 2023.

(13) Consists of 438,151 shares of common stock underlying options exercisable within 60 days from September 30, 2023.

(14) Consists of (i) 2,806,150 shares of common stock, (ii) 16,948,341 shares of common stock issuable upon conversion of convertible preferred stock, and (iii) 8,127,838 shares of common stock underlying options exercisable within 60 days from September 30, 2023.

DESCRIPTION OF CAPITAL STOCK

Capital Structure

The following description of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the amended and restated certificate of incorporation and the amended and restated bylaws that will be in effect upon the closing of this offering. Copies of these documents will be filed with the SEC as exhibits to our registration statement, of which this prospectus forms a part. The descriptions of our common stock and preferred stock reflect changes to our capital structure that will occur upon the closing of this offering.

As of September 30, 2023, 82,490,366 shares of our common stock were outstanding and held by 98 stockholders of record. This amount assumes the conversion of all outstanding shares of our convertible preferred stock into shares of our common stock, which will occur immediately prior to the closing of this offering. Additionally, in connection with the closing of this offering, the 2022 Convertible Notes will automatically settle into shares of our common stock, assuming an initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus.

General

At or prior to the consummation of this offering, we will file an amended and restated certificate of incorporation and we will adopt our amended and restated bylaws. Our amended and restated certificate of incorporation will authorize capital stock consisting of:

- shares of common stock, par value $0.00001 per share; and
- shares of preferred stock, par value $0.00001 per share.

We are selling shares of common stock in this offering (shares if the underwriters exercise their option to purchase additional shares of our common stock in full). All shares of our common stock outstanding upon consummation of this offering will be fully paid and non-assessable.

The following summary describes the material provisions of our capital stock. We urge you to read our amended and restated certificate of incorporation and our amended and restated bylaws, which are included as exhibits to the registration statement of which this prospectus forms a part.

Certain provisions of our amended and restated certificate of incorporation and our amended and restated bylaws summarized below may be deemed to have an anti-takeover effect and may delay or prevent a tender offer or takeover attempt that a stockholder might consider in its best interest, including those attempts that might result in a premium over the market price for the shares of common stock.

Common Stock

The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock. Our common stock has no preemptive rights, conversion rights or other subscription rights or redemption or sinking fund provisions.

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Upon our dissolution or liquidation, after payment in full of all amounts required to be paid to creditors and to the holders of preferred stock having liquidation preferences, if any, the holders of shares of our common stock will be entitled to receive pro rata our remaining assets available for distribution for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the prior rights of any preferred stock then outstanding.

Preferred Stock

Upon the closing of this offering, (i) all outstanding shares of our convertible preferred stock will be converted into shares of our common stock, and (ii) all outstanding shares of our convertible preferred stock will be cancelled.

Upon the consummation of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our company or other corporate action. Immediately after consummation of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Options

As of September 30, 2023, options to purchase 19,781,902 shares of our common stock were outstanding under our 2011 Plan, of which 13,800,563 options were vested of that date.

Restricted Stock Units

As of September 30, 2023, 87,621 shares of common stock issuable upon the vesting and settlement of RSUs were outstanding.

Warrants

2014 Warrants

As of September 30, 2023, 118,483 shares of common stock issuable upon the exercise of warrants issued in 2014 were outstanding.

2019 Warrants

As of September 30, 2023, 257,380 shares of common stock issuable upon the exercise of the 2019 warrants were outstanding.

2020 Warrants

As of September 30, 2023, 89,452 shares of common stock issuable upon the exercise of the 2020 warrants were outstanding.

July 2023 Warrants

As of September 30, 2023, 2,492,656 shares of common stock issuable upon the exercise of the July 2023 warrants, at an assumed exercise price of $8.3843, were outstanding.

The July 2023 warrants have an exercise price, at the holders' choice, of (a)$8.3843 per share, (b) the lowest original issue price of shares of preferred stock we issue in our next bona fide private preferred equity financing round, (c) in the event of any convertible note, or similar convertible security financing, the conversion price contemplated by such convertible security, or (d) in the event of an IPO, the per share offering price to the public in such IPO.

September 2023 Warrants

As of September 30, 2023, 500,936 shares of common stock issuable upon the exercise of the September 2023 warrants, at an assumed exercise price of $8.3843, were outstanding.

The September 2023 warrants have an exercise price, at the holders' choice, of (a) $8.3843 per share, (b) the lowest original issue price of any series of preferred stock we issue after the issuance date of the September 2023 warrants, (c) the conversion or exercise price of any convertible debt security, option, or warrant we issue after the issuance date of the September 2023 warrants, or (d) the price at which our common equity was first sold to the public in a firm-commitment underwritten offering or otherwise.

Registration Rights

Under the IRA, following the consummation of this offering, certain holders of our common stock will be entitled to certain rights with respect to the registration of such shares for public resale under the Securities Act, until the rights otherwise terminate pursuant to the terms of the IRA. Pursuant to the IRA, beginning six months after the completion of this offering, the holders of up to shares of our common stock, or certain permitted transferees, will be entitled to certain rights with respect to the registration of the offer and sale of those shares under the Securities Act. The registration of shares of common stock as a result of the following rights being exercised would enable holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective.

Form S-1 Registration Rights

Pursuant to the IRA, certain holders of common stock are entitled to certain demand registration rights, including to demand registration of their registrable securities on a registration statement on Form S-1 at any time after 180 days following the completion of this offering. The holders of at least 30% of the registrable securities have the right to require us to file a registration statement on Form S-1 under the Securities Act in order to register the resale of their shares of common stock; *provided*, that no such registration is required to be made (i) during the period that is 60 days before our good faith estimate of the date of filing of, and ending on a date that is 180 days after the effective date of, a Company-initiated registration, (ii) at such time as we have effected two such registration statements, or (iii) if the holders who initiated the registration request propose to dispose of shares of registrable securities that may be immediately registered on Form S-3 pursuant to a request under the IRA. We may, in certain circumstances, defer such registrations, and the underwriters have the right, subject to certain limitations, to limit the number of shares included in such registrations.

Piggyback Registration Rights

If at any time after this offering we propose to register any shares of our common stock under the Securities Act, subject to certain exceptions, the holders of registrable securities will be entitled to notice of the registration and to include their shares of registrable securities in the registration. If our proposed registration involves an underwriting, the managing underwriter of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares.

Form S-3 Registration

After we are qualified for registration on Form S-3, the holders, as holders of registrable securities, may make a written request that we register the offer and sale of their shares on a Form S-3 registration statement, having an anticipated aggregate offering price of at least $2,000,000; provided, that no such registration is required to be made (i) during the period that is 30 days before our good faith estimate of the date of filing of, and ending on a date that is 90 days after the effective date of, a Company-initiated registration, or (ii) at such time as we have effected two such registrations within the 12-month period immediately preceding the date of such request. We may, in certain circumstances, defer such registrations, and the underwriters have the right, subject to certain limitations, to limit the number of shares included in such registrations.

Expenses and Indemnification

Ordinarily, other than underwriting discounts and commissions, we will be required to pay all expenses incurred by us related to any registration effected pursuant to the exercise of these registration rights. These expenses may include all registration, filing and qualification fees; printers' and accounting fees; fees and disbursements of our counsel; and reasonable fees and disbursements of a counsel for the selling securityholders. Additionally, we have agreed to indemnify selling stockholders for damages, and any legal or other expenses reasonably incurred, arising from or based upon any untrue statement of a material fact contained in any registration statement, an omission or alleged omission to state a material fact in any registration statement or necessary to make the statements therein not misleading, or any violation or alleged violation by the indemnifying party of securities laws, subject to certain exceptions.

Termination of Registration Rights

The registration rights terminate as to any shares of registrable securities upon the earliest of: (i) such shares have been registered under the Securities Act pursuant to an effective registration statement filed thereunder and disposed of in accordance with the registration statement covering them, (ii) such shares may be publicly sold pursuant to Rule 144 of the Securities Act, (iii) the fifth anniversary of the completion of this offering, or (iv) the closing of a deemed liquidation event.

Choice of Forum

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers or stockholders to us or to our stockholders; (iii) any action asserting a claim against us arising pursuant to the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws (as either may be amended from time to time); and (iv) any action asserting a claim against us that is governed by the internal affairs doctrine. As a result, any action brought by any of our stockholders with regard to any of these matters will need to be filed in the Court of Chancery of the State of Delaware and cannot be filed in any other jurisdiction; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause or causes of action against us or any defendant arising under the Securities Act. Such provision is intended to benefit and may be enforced by us, our officers and directors, employees and agents, including the underwriters

and any other professional or entity who has prepared or certified any part of this prospectus. Nothing in our amended and restated certificate of incorporation and amended and restated bylaws preclude stockholders that assert claims under the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

If any action the subject matter of which is within the scope described above is filed in a court other than a court located within the State of Delaware, or a Foreign Action, in the name of any stockholder, such stockholder shall be deemed to have consented to the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce the applicable provisions of our amended and restated certificate of incorporation and amended and restated bylaws and having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder. Although our amended and restated certificate of incorporation and amended and restated bylaws will contain the choice of forum provision described above, it is possible that a court could find that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims or make such lawsuits more costly for stockholders, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder.

Dividends

Declaration and payment of any dividend will be subject to the discretion of our board of directors. The time and amount of dividends will be dependent upon our business prospects, results of operations, financial condition, cash requirements and availability, debt repayment obligations, capital expenditure needs, contractual restrictions, covenants in the agreements governing our current and future indebtedness, industry trends, the provisions of Delaware law affecting the payment of distributions to stockholders and any other factors our board of directors may consider relevant. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business and to repay indebtedness, and therefore do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future. See "Dividend Policy" and "Risk Factors—Risks Related to this Offering and Ownership of our Common Stock— We do not currently intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation of the value of our common stock."

Anti-Takeover Provisions

Our amended and restated certificate of incorporation and amended and restated bylaws, as they will be in effect immediately prior to the consummation of this offering, will contain provisions that may delay, defer or discourage another party from acquiring control of us. We expect that these provisions, which are summarized below, will discourage coercive takeover practices or inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors, which we believe may result in an improvement of the terms of any such acquisition in favor of our stockholders. However, they also give our board of directors the power to discourage acquisitions that some stockholders may favor. See "Risk Factors—Risks Related to This Offering and Ownership of Our Common Stock— Provisions in our certificate of incorporation and bylaws and Delaware law might discourage, delay or prevent a change in control of our company or changes in our management and, therefore, depress the market price of our common stock."

Authorized but Unissued Shares

The authorized but unissued shares of our common stock and our preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the listing standards of the Nasdaq Global Market. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

Classified Board of Directors

Our amended and restated certificate of incorporation will provide that our board of directors will be divided into three classes, with the classes as nearly equal in number as possible and each class serving three-year staggered terms. In all other cases and at any other time, directors may only be removed from our board of directors for cause by the affirmative vote of a majority of the shares entitled to vote. See "Management—Composition of our Board of Directors." These provisions may have the effect of deferring, delaying or discouraging hostile takeovers, or changes in control of us or our management.

Stockholder Action; Special Meeting of Stockholders

Our amended and restated certificate of incorporation will provide that our stockholders will not be able to take action by written consent for any matter and may only take action at annual or special meetings. As a result, a holder controlling a majority of our capital stock would not be able to amend our amended and restated bylaws or remove directors without holding a meeting of our stockholders called in accordance with our amended and restated bylaws, unless previously approved by our board of directors. Our amended and restated certificate of incorporation will further provide that special meetings of our stockholders may be called only by the chairman of our board of directors, our chief executive officer, our president or another officer selected by a majority of our board of directors, thus limiting the ability of a stockholder to call a special meeting. These provisions might delay the ability of our stockholders to force consideration of a proposal or for stockholders controlling a majority of our capital stock to take any action, including the removal of directors.

Advance Notice Requirements for Stockholder Proposals and Director Nominations

In addition, our amended and restated bylaws will establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to our board of directors. In order for any matter to be "properly brought" before a meeting, a stockholder will have to comply with advance notice and duration of ownership requirements and provide us with certain information. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors or by a qualified stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying stockholder actions that are favored by the holders of a majority of our outstanding voting securities until the next stockholder meeting.

Amendment of Certificate of Incorporation or Bylaws

The DGCL provides generally that the affirmative vote of the holders of a majority in voting power of the shares entitled to vote is required to amend a corporation's certificate of incorporation, unless a corporation's certificate of incorporation requires a greater percentage. Upon consummation of this offering, our bylaws may be amended or repealed by a majority vote of our board of directors or by the affirmative vote of the holders a majority of the votes which all our stockholders would be eligible to cast in an election of directors.

Section 203 of the DGCL

We are subject to Section 203 of the DGCL, which prohibits persons deemed "interested stockholders" from engaging in a "business combination" with a publicly held Delaware corporation for three years following the date these persons become interested stockholders unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years prior to the determination of interested stockholder status did own, 15% or more of a corporation's voting stock. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors, such as discouraging takeover attempts that might result in a premium over the market price of our common stock.

Limitations on Liability and Indemnification of Officers and Directors

Our amended and restated bylaws provide indemnification for our directors and officers to the fullest extent permitted by the DGCL, along with the right to have expenses incurred in defending proceedings paid in advance of their final disposition. Prior to the consummation of this offering, we intend to enter into indemnification agreements with each of our directors and executive officers that may, in some cases, be broader than the specific indemnification and advancement provisions contained under our amended and restated bylaws and provided under Delaware law. In addition, as permitted by Delaware law, our amended and restated certificate of incorporation includes provisions that eliminate the personal liability of our directors for monetary damages resulting from breaches of certain fiduciary duties as a director. The effect of this provision is to restrict our rights and the rights of our stockholders to recover monetary damages against a director for breach of fiduciary duties as a director.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable.

Dissenters' Rights of Appraisal and Payment

Under the DGCL, with certain exceptions, our stockholders will have appraisal rights in connection with a merger or consolidation of Fractyl Health, Inc. Pursuant to the DGCL, stockholders who properly demand and perfect appraisal rights in connection with such mergers or consolidations will have the right to receive payment of the fair value of their shares as determined by the Delaware Court of Chancery, subject to certain limitations.

Stockholders' Derivative Actions

Under the DGCL, any of our stockholders may bring an action in our name to procure a judgment in our favor, also known as a derivative action, in certain circumstances. Among other things, either the stockholder bringing any such action must be a holder of our shares at the time of the transaction to which the action relates or such stockholder's stock must have thereafter devolved by operation of law, and such stockholder must continuously hold shares through the resolution of such action.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti Trust Company, LLC.

Trading Symbol and Market

We have applied to list our common stock on the Nasdaq Global Market under the symbol "GUTS."

SHARES ELIGIBLE FOR FUTURE SALE

Immediately prior to this offering, there was no public market for our common stock. Future sales of substantial amounts of common stock in the public market, or the perception that such sales may occur, could adversely affect the market price of our common stock. Although we have applied to have our common stock listed on the Nasdaq Global Market, we cannot assure you that there will be an active public market for our common stock.

Upon the closing of this offering, we will have outstanding an aggregate of shares of common stock (shares if the underwriters exercise their option to purchase additional shares from us in full). Of these shares, all shares of common stock sold in this offering will be freely tradable without restriction or further registration under the Securities Act, except for any shares purchased by our "affiliates," as that term is defined in Rule 144 under the Securities Act, whose sales would be subject to the Rule 144 resale restrictions described below, other than the holding period requirement.

Lock-Up Agreements

We, our officers and directors and holders of substantially all of our common stock and securities convertible into or exchangeable for our common stock have agreed that, without the prior written consent of BofA Securities, Inc., Morgan Stanley & Co. LLC and Evercore Group L.L.C., as representatives of the underwriters, we and they will not, subject to certain exceptions, during the period ending 180 days after the date of this prospectus:

- directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, any shares of our common stock, or any securities convertible into or exchangeable for shares of our common stock; or

- enter into any swap or any other agreement or transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock,

whether any transaction described above is to be settled by delivery of our common stock or such other securities, in cash or otherwise. These agreements are subject to certain exceptions, as described in the section of this prospectus entitled "Underwriting."

The representatives of the underwriters have advised us that they have no present intent or arrangement to release any shares subject to a lock-up, and will consider the release of any lock-up on a case-by-case basis. Upon a request to release any shares subject to a lock-up, the representatives of the underwriters would consider the particular circumstances surrounding the request, including, but not limited to, the length of time before the lock-up expires, the number of shares requested to be released, reasons for the request, the possible impact on the market or our common stock and whether the holder of our shares requesting the release is an officer, director or other affiliate of ours.

Upon the expiration of the applicable lock-up periods, substantially all of the shares subject to such lock-up restrictions will become eligible for sale, subject to the limitations discussed above.

Rule 144

Affiliate Resales of Restricted Securities

In general, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person who is an affiliate of ours, or who was an affiliate at any time during the 90 days

before a sale, who has beneficially owned shares of our common stock for at least 180 days would be entitled to sell in "broker's transactions" or certain "riskless principal transactions" or to market makers, a number of shares within any three-month period that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding; and
- the average weekly trading volume in our common stock on the Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Affiliate resales under Rule 144 are also subject to the availability of current public information about us. In addition, if the number of shares being sold under Rule 144 by an affiliate during any three-month period exceeds 5,000 shares or has an aggregate sale price in excess of $50,000, the seller must file a notice on Form 144 with the SEC and Nasdaq concurrently with either the placing of a sale order with the broker or the execution directly with a market maker.

Non-Affiliate Resales of Restricted Securities

Under Rule 144, a person who is not an affiliate of ours at the time of sale, and has not been an affiliate at any time during the 90 days preceding a sale, and who has beneficially owned shares of our common stock for at least six months but less than a year, is entitled to sell such shares subject only to the availability of current public information about us. If such person has held our shares for at least one year, such person can resell without regard to any Rule 144 restrictions, including the 90-day public company requirement and the current public information requirement.

Non-affiliate resales are not subject to the manner of sale, volume limitation or notice filing provisions of Rule 144.

Rule 701

In general, under Rule 701, any of our employees, directors, officers, consultants or advisors who purchases shares from us in connection with a compensatory stock or option plan or other written agreement before the effective date of the registration statement of which this prospectus forms a part is entitled to sell such shares 90 days after such effective date in reliance on Rule 144. Our affiliates can resell shares in reliance on Rule 144 without having to comply with the holding period requirement, and non-affiliates of the issuer can resell shares in reliance on Rule 144 without having to comply with the current public information and holding period requirements.

The SEC has indicated that Rule 701 will apply to typical stock options granted by an issuer before it becomes subject to the reporting requirements of the Exchange Act, along with the shares acquired upon exercise of such options, including exercises after an issuer becomes subject to the reporting requirements of the Exchange Act.

Registration Rights

Pursuant to our IRA, beginning six months after the completion of this offering, the holders of up to shares of our common stock, or certain transferees, will be entitled to certain rights with respect to the registration of the offer and sale of those shares under the Securities Act. See the section titled "Description of Capital Stock—Registration Rights" for a description of these registration rights. If the offer and sale of these shares of our common stock are registered, the shares will be freely tradable without restriction under the Securities Act, subject to the Rule 144 limitations applicable to affiliates, and a large number of shares may be sold into the public market.

Registration Statements on Form S-8

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all shares of common stock subject to outstanding stock options, RSUs, warrants and common stock issuable under our equity incentive plans. We expect to file the registration statement covering shares offered pursuant to these stock plans shortly after the date of this prospectus, permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act and the sale by affiliates in the public market subject to compliance with the resale provisions of Rule 144.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax consequences for Non-U.S. Holders (as defined below) of the purchase, ownership, and disposition of our common stock issued pursuant to this offering. This discussion does not purport to be a complete analysis of all potential tax effects relating thereto. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local, or non-U.S. tax laws are not discussed. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the IRS, in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder of our common stock. We have not requested and will not seek any ruling from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership, and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder's particular circumstances, including the impact of the Medicare contribution tax on net investment income and the alternative minimum tax. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules under the U.S. federal income tax laws, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons holding our common stock as part of a hedge, straddle, or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions, regulated investment companies, or real estate investment trusts;
- brokers or dealers in securities or currencies;
- traders in securities or other persons that elect to use a mark-to-market method of accounting for their holdings in our stock;
- controlled foreign corporations (as defined in Section 957 of the Code), passive foreign investment companies (as defined in Section 1297 of the Code), and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes and other pass-through entities (and investors in such entities);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- pension plans or tax-exempt retirement plans;
- persons that own, or are deemed to own, more than five percent of our capital stock;

- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds; and

- persons subject to special tax accounting rules as a result of any item of gross income with respect to the common stock being taken into account in an applicable financial statement (as defined in Section 451(b) of the Code).

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership, and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP, AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL, OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a "Non-U.S. Holder" is any beneficial owner of our common stock that is neither a "United States person" nor an entity treated as a partnership for U.S. federal income tax purposes. A United States person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;

- a corporation created or organized under the laws of the United States, any state thereof, or the District of Columbia;

- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or

- a trust that (1) is subject to the primary supervision of a U.S. court and which has one or more "United States persons" (as defined in Section 7701(a)(30) of the Code) that have the authority to control all substantial decisions of the trust, or (2) has a valid election in effect to be treated as a United States person under the applicable Treasury Regulations.

Distributions

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying dividends to holders of our common stock in the foreseeable future. However, if we do make distributions of cash or property on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-U.S. Holder's adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under "—Sale or other taxable disposition."

Subject to the discussion below on effectively connected income, dividends paid to a Non-U.S. Holder of our common stock will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder timely

furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may be able to obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder generally will be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must timely furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States.

Any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular rates applicable to United States persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate provided for by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

Subject to the discussion below on information reporting, backup withholding and foreign accounts, a Non-U.S. Holder will generally not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);
- the Non-U.S. Holder is a nonresident alien individual present in the United States for a period or periods aggregating 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a U.S. real property interest, or a USRPI, by reason of our status as a U.S. real property holding corporation, or a USRPHC, for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the rates applicable to United States persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate provided for by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

A Non-U.S. Holder described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate provided for by an applicable income tax treaty) on gain realized upon the sale or other taxable disposition of our common stock, which may be offset by U.S. source capital losses of the Non-U.S. Holder (even though the individual is not considered a resident of the United States), provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future.

Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder of our common stock will not be subject to U.S. federal income tax if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period.

Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on our common stock, if any, will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know the holder is a United States person and the holder either certifies its non-U.S. status, such as by timely furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any distributions on our common stock paid to the Non-U.S. Holder, regardless of whether such distributions constitute dividends or whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting, if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that such holder is a United States person, or the holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act, or FATCA), on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or (subject to the proposed Treasury Regulations discussed below) gross proceeds from the sale or other disposition of, our common stock paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States-owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our common stock. The U.S. Department of the Treasury has issued proposed Treasury Regulations providing that the withholding provisions under FATCA do not apply with respect to the gross proceeds from a sale or other disposition of our common stock. In its preamble to such proposed regulations, the U.S. Department of the Treasury stated that taxpayers generally may rely on these proposed Treasury Regulations until final Treasury Regulations are issued.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

UNDERWRITING

BofA Securities, Inc., Morgan Stanley & Co. LLC and Evercore Group L.L.C. are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
BofA Securities, Inc.	
Morgan Stanley & Co. LLC	
Evercore Group L.L.C.	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	Per Share	Without Option	With Option
Public offering price	$	$	$
Underwriting discount	$	$	$
Proceeds, before expenses, to us	$	$	$

The expenses of the offering, not including the underwriting discount, are estimated at $ million and are payable by us. We have also agreed to reimburse the underwriters for their expenses relating to clearance of this offering with the Financial Industry Regulatory Authority in an amount up to $.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to additional shares at the public offering price, less the underwriting discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and our other existing security holders have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 180 days after the date of this prospectus without first obtaining the written consent of the representatives. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- exercise any right with respect to the registration of any of the common stock, or file, cause to be filed or cause to be confidentially submitted any registration statement in connection therewith; or
- enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the common stock, whether any such swap or transaction is to be settled by delivery of shares of common stock or other securities, in cash or otherwise.

The exceptions to the restrictions in the immediately preceding paragraph permit our executive officers and directors, subject to certain restrictions, to transfer the common stock:

- as a bona fide gift or gifts;
- to any immediate family member or any trust;
- as a distribution to any limited partners, members, stockholders or other equity holders;
- to affiliates or to any investment fund or other entity controlled or managed by the person subject to the lock-up;
- by will or intestate succession; or
- pursuant to a court order, a qualified domestic order or in connection with a divorce settlement.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

Nasdaq Global Market Listing

We have applied to list our common stock on the Nasdaq Global Market under the symbol "GUTS."

Before this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are:

- the valuation multiples of publicly traded companies that the representatives believe to be comparable to us,
- our financial information,
- the history of, and the prospects for, our company and the industry in which we compete,
- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues,
- the present state of our development, and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. “Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. “Naked” short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a

decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the Nasdaq Global Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling Restrictions

European Economic Area and the United Kingdom

In relation to each Member State of the European Economic Area and the United Kingdom (each a "Relevant State"), no shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation), except that offers of Shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

a. to any legal entity which is a qualified investor as defined under the Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of coordinator for any such offer; or

c. in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of Shares shall require the Issuer or any Manager to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the underwriters that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any Shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any Shares to be offered so as to enable an investor to decide to purchase or subscribe for any Shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

References to the Prospectus Regulation includes, in relation to the UK, the Prospectus Regulation as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018.

The above selling restriction is in addition to any other selling restrictions set out below.

In connection with the offering, the underwriters are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients nor for providing advice in relation to the offering.

Notice to Prospective Investors in the United Kingdom

In relation to the United Kingdom, or the UK, no Shares have been offered or will be offered pursuant to the offering to the public in the UK prior to the publication of a prospectus in relation to the Shares which has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the FSMA, except that offers of Shares may be made to the public in the UK at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

a. to any legal entity which is a qualified investor as defined under the UK Prospectus Regulation;

b. to fewer than 150 natural or legal persons (other than qualified investors as defined under the UK Prospectus Regulation), subject to obtaining the prior consent of coordinator for any such offer; or

c. at any time in other circumstances falling within section 86 of the FSMA,

provided that no such offer of Shares shall require the Issuer or any Manager to publish a prospectus pursuant to Section 85 of the FSMA or Article 3 of the UK Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the UK who initially acquires any Shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the Company and the Managers that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any Shares being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the Shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in the UK to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale.

The Company, the underwriters and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any Shares in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and any Shares to be offered so as to enable an investor to decide to purchase or subscribe for any Shares, the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018, and the expression "FSMA" means the Financial Services and Markets Act 2000.

In connection with the offering, the underwriters are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients nor for providing advice in relation to the offering.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Financial Promotion Order"), (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended ("FSMA")) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or the SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or the CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, or the DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001, or the Corporations Act, and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons, or the Exempt Investors, who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time, or the SFA) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

a. a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

b. a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

a. to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

b. where no consideration is or will be given for the transfer;

c. where the transfer is by operation of law; or

d. as specified in Section 276(7) of the SFA.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of

the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* NI 33-105, the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Latham & Watkins LLP. Goodwin Procter LLP has acted as counsel for the underwriters in connection with certain legal matters related to this offering.

EXPERT

The consolidated financial statements of Fractyl Health, Inc. at December 31, 2022 and 2021, and for each of the two years in the period ended December 31, 2022, appearing in this Prospectus and Registration Statement have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the consolidated financial statements) appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock offered hereby. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules filed with the registration statement. For further information about us and the common stock offered hereby, we refer you to the registration statement and the exhibits filed with the registration statement. Statements contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement. The SEC also maintains an internet website that contains reports, proxy statements and other information about registrants, like us, that file electronically with the SEC. The address of that website is *www.sec.gov*.

Upon the closing of this offering, we will be required to file periodic reports, proxy statements, and other information with the SEC pursuant to the Exchange Act. These reports, proxy statements, and other information will be available on the website of the SEC referred to above.

We also maintain a website at *www.fractyl.com*, through which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessed through our website is not a part of this prospectus and the inclusion of our website address in this prospectus is an inactive textual reference only.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Fractyl Health, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Fractyl Health, Inc. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows for each of the two years in the period ended December 31, 2022 and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

The Company's Ability to Continue as a Going Concern

The accompanying consolidated financial statements have been prepared assuming the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations, expects the losses to continue and has stated that substantial doubt exists about the Company's ability to continue as a going concern. Management's evaluation of the events and conditions and management's plans regarding these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2017.

Boston, Massachusetts
August 22, 2023

Fractyl Health, Inc.
Consolidated Balance Sheets
(in thousands, except for share and per share information)

	December 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 49,269	$ 95,473
Prepaid expenses and other current assets	2,360	915
Total current assets	51,629	96,388
Restricted cash	4,255	—
Property and equipment, net	326	723
Right-of-use lease assets	1,321	622
Other long-term assets	3,425	4,815
Total assets	$ 60,956	$ 102,548
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 980	$ 970
Accrued expenses and other current liabilities	5,081	6,010
Lease liabilities, current	1,250	950
Note payable, current	—	15,724
Total current liabilities	7,311	23,654
Lease liabilities, long-term	465	334
Convertible notes payable, long-term	17,760	—
Convertible preferred stock warrant liability	407	544
Other long-term liabilities	2	11
Total liabilities	25,945	24,543
Commitments and contingencies		
Convertible preferred stock (Series A, B, C-1, C-2, D, E and F), $0.00001 par value; 78,112,639 shares authorized at December 31, 2022 and 2021; 77,994,156 shares issued and outstanding at December 31, 2022 and 2021; aggregate liquidation preference of $361,901 and $344,734 at December 31, 2022 and 2021, respectively	287,330	287,330
Stockholders' deficit:		
Common stock, $0.00001 par value; 107,000,000 shares authorized at December 31, 2022 and 2021; 4,410,945 and 4,049,782 shares issued and outstanding at December 31, 2022 and 2021, respectively	—	—
Additional paid-in capital	17,206	13,747
Accumulated deficit	(269,525)	(223,072)
Total stockholders' deficit	(252,319)	(209,325)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 60,956	$ 102,548

The accompanying notes are an integral part of these consolidated financial statements.

Fractyl Health, Inc.
Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except for share and per share information)

	Year Ended December 31,	
	2022	2021
Operating expenses:		
Research and development	$ 34,354	$ 26,435
General and administrative	15,031	10,493
Total operating expenses	49,385	36,928
Loss from operations	(49,385)	(36,928)
Other income (expense), net:		
Interest income (expense), net	797	(1,442)
Loss from debt extinguishment	(313)	0
Change in fair value of convertible notes payable	2,315	0
Change in fair value of convertible preferred stock warrant liability	137	(356)
Other expenses, net	(4)	(9)
Total other income (expense), net	2,932	(1,807)
Net loss and comprehensive loss	(46,453)	(38,735)
Accretion of dividends on convertible preferred stock	(17,180)	(14,486)
Net loss attributable to common stockholders	$ (63,633)	$ (53,221)
Net loss per share attributable to common stockholders, basic and diluted	$ (14.90)	$ (13.34)
Weighted-average number of common shares outstanding, basic and diluted	4,271,489	3,990,680

The accompanying notes are an integral part of these consolidated financial statements.

Fractyl Health, Inc.
Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit
(in thousands, except for share information)

	Series A, B, C-1, C-2, D, E and F Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount			
Balance at December 31, 2020	66,067,108	$ 187,484	3,978,326	$ —	$ 11,616	$ (184,337)	$ (172,721)
Issuance of Series F convertible preferred stock, net of issuance costs of $154	11,927,048	99,846	—	—	—	—	—
Exercise of common stock options	—	—	71,456	—	40	—	40
Stock-based compensation expense	—	—	—	—	2,091	—	2,091
Net loss	—	—	—	—	—	(38,735)	(38,735)
Balance at December 31, 2021	77,994,156	287,330	4,049,782	—	13,747	(223,072)	(209,325)
Exercise of common stock options	—	—	361,163	—	321	—	321
Stock-based compensation expense	—	—	—	—	3,138	—	3,138
Net loss	—	—	—	—	—	(46,453)	(46,453)
Balance at December 31, 2022	77,994,156	$ 287,330	4,410,945	$ —	$ 17,206	$ (269,525)	$ (252,319)

The accompanying notes are an integral part of these consolidated financial statements.

Fractyl Health, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,	
	2022	2021
Cash flows from operating activities:		
Net loss	$(46,453)	$(38,735)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	452	676
Loss on disposal of fixed assets	1	8
Loss on debt extinguishment	313	—
Stock-based compensation expense	3,138	2,091
Non-cash interest expense	0	431
Change in fair value of convertible preferred stock warrant liability	(137)	356
Change in fair value of convertible notes payable	(2,315)	—
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(1,445)	860
Accounts payable	10	666
Accrued expenses and other current liabilities	(929)	3,097
Lease assets and lease liabilities, net	(268)	(618)
Other long-term assets and liabilities	1,390	(2,294)
Net cash used in operating activities	(46,243)	(33,462)
Cash flows from investing activities:		
Purchases of property and equipment	(56)	(51)
Net cash used in investing activities	(56)	(51)
Cash flows from financing activities:		
Proceeds from issuance of convertible notes	20,075	—
Proceeds from exercise of stock options	321	40
Proceeds from issuance of convertible preferred stock, net of issuance costs	—	99,846
Repayment of notes payable	(16,037)	—
Principal payments on capital lease obligations	(9)	(7)
Net cash provided by financing activities	4,350	99,879
Net increase in cash, cash equivalents and restricted cash	(41,949)	66,366
Cash, cash equivalents and restricted cash at beginning of period	95,473	29,107
Cash, cash equivalents and restricted cash at end of period	$ 53,524	$ 95,473
Supplemental disclosure of cash flow information:		
Interest paid	$ 7	$ 1,028
Non-cash investing and financing activities:		
Remeasurement of right-of-use asset on lease modification	$ 1,352	$ —

The accompanying notes are an integral part of these consolidated financial statements.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements
(in thousands, except share and per share information)

1. Nature of the Business and Basis of Presentation

Fractyl Health, Inc. (the "Company") was incorporated on August 30, 2010 under the name MedCatalyst, Inc. The Company subsequently changed its name to Fractyl Laboratories Inc. on January 10, 2012 and subsequently to Fractyl Health, Inc. on June 9, 2021. The Company is a metabolic therapeutics company focused on pioneering new approaches to the treatment of metabolic diseases, including type 2 diabetes ("T2D") and obesity. The Company's goal is to transform metabolic disease treatment from chronic symptomatic management to durable disease-modifying therapies that target the organ-level root causes of T2D and obesity. The Revita DMR System ("Revita"), the Company's lead product candidate, is an outpatient procedural therapy designed to durably modify duodenal dysfunction, a major pathologic consequence of a high fat and high sugar diet, which can initiate T2D and obesity in humans. Led by the Company's ongoing Revitalize-1 pivotal study, the Company has initiated a broad clinical program designed to evaluate Revita in multiple clinical studies across a range of patient populations from prediabetes and obesity to advanced T2D patients on long-acting insulin. In addition, the Company is developing Rejuva, a novel, locally administered, adeno-associated virus delivered pancreatic gene therapy platform. Rejuva is designed to enable long-term remission of T2D and obesity by durably altering metabolic hormone function in the pancreatic islet cells of patients. The Company believes Revita and Rejuva, if approved, have the potential to revolutionize treatment across the spectrum of T2D and obesity, align the clinical and economic interest of key stakeholders around the long-term regression of metabolic disease, and, at their fullest potential, significantly reduce the burden of metabolic disease globally.

The accompanying consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASUs"), promulgated by the Financial Accounting Standards Board ("FASB").

Liquidity

The Company has financed its operations to date primarily through sales of its convertible preferred stock and debt financing. As of December 31, 2022, the Company had cash and cash equivalents totaling $49,269 and net working capital of $44,318. The Company has a history of operating losses and had an accumulated deficit of $269,525 as of December 31, 2022.

Under ASC 205-40, *Going Concern*, management must evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the financial statements are issued. This evaluation initially does not take into consideration the potential mitigating effect of management's plans that have not been fully implemented as of the date the financial statements are issued. When substantial doubt exists, management evaluates whether the mitigating effect of its plans sufficiently alleviates substantial doubt about the Company's ability to continue as a going concern. The mitigating effect of management's plans, however, is only considered if both (1) it is probable that the plans will be effectively implemented within one year after the date that the financial statements are issued, and (2) it is probable that the plans, when implemented, will mitigate the relevant conditions or events that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued. Generally, to be considered probable of being effectively implemented, the plans must have been approved by the Company's Board of Directors ("Board") before the date that the financial statements are issued.

The future success of the Company is dependent on its ability to develop its product candidates and ultimately upon its ability to attain profitable operations. The Company is subject to a number of risks similar to other early-stage life science companies, including, but not limited to, successful discovery and development of

its product candidates, raising additional capital with favorable terms, development by its competitors of new technological innovations, protection of proprietary technology and market acceptance of the Company's products. The successful discovery and development of product candidates requires substantial working capital which may not be available to the Company on favorable terms or not at all.

The Company has generated insignificant revenue from product sales since its limited pilot commercial launch in Germany in the first quarter of 2023. The Company does not anticipate generating revenue from product sales in the United States unless and until it successfully completes clinical development and obtains marketing approvals from one or more of the product candidates. As a result, management expects continuing operating losses in the future. As of December 31, 2022, the Company had available cash and cash equivalents of $49,269, which is not sufficient to fund the Company's current operating plan for at least twelve months after the date the consolidated financial statements are issued. The Company expects to seek additional funds through equity or debt financings or through additional collaboration, licensing transactions or other sources. The Company is currently pursuing financing through a debt facility with lenders that would extend its cash runway, however there can be no assurances that management will be successful in securing this debt financing. The Company may be unable to obtain equity or debt financings or enter into additional collaboration or licensing transactions and, if necessary, the Company will be required to implement cost reduction strategies which could curtail or delay its current clinical activities. As a result, substantial doubt exists about the Company's ability to continue as a going concern. The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

2. Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting periods. Significant estimates relied upon in preparing these consolidated financial statements include, but are not limited to, the fair value of common stock, the fair value of preferred and common stock warrants, the fair value of convertible notes payable, the fair value of stock-based awards, the incremental borrowing rate for lease accounting and the accrual of research and development expenses. Estimates are periodically reviewed in light of changes in circumstances, facts and experience. Actual results could differ materially from those estimates.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated.

Cash and Cash Equivalents

The Company considers all short-term, highly liquid investments with original maturities of 90 days or less at the date of purchase to be cash equivalents. Cash equivalents, which consist of money market funds, are stated at fair value.

Restricted Cash

The Company opened a cash collateral bank account in August 2022 in conjunction with the maintenance of a letter of credit required under its new facility lease (See Note 7). The letter of credit was issued for an original effective period of 12 months with automatic annual renewal until the expiration date.

Concentration of Credit Risk

The Company's financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents. As of December 31, 2022, substantially all of the Company's cash and cash equivalents were maintained at one financial institution. The Company's deposits at times may significantly exceed federally insured limits. Potential failure of the financial institution could impact access to our cash and cash equivalents and could adversely impact our operating liquidity and financial performance. To date, the Company has not experienced any losses related to its cash and cash equivalents.

Segment information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision-maker in deciding how to allocate resources and assess performance. The Company and the Company's chief operating decision-maker, the Company's chief executive officer, views the Company's operations and manages its business as a single operating segment. All of the Company's long-lived assets are held in the United States.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. Depreciation and amortization expense is recognized using the straight-line method over the following estimated useful lives:

Asset Category	Estimated Useful Life
Computer and office equipment	3 to 5 years
Laboratory and manufacturing equipment	3 years
Website development costs	3 years
Leasehold improvements	Shorter of remaining lease term or the estimated useful life of 5 to 8 years

Costs of major additions and betterments are capitalized and amortized on a straight-line basis over the shorter of the remaining lease term or the estimated useful life of the asset. Upon retirement or sale, the cost of assets disposed of and the related accumulated amortization are removed from the accounts and any resulting gain or loss is included in the determination of net income or loss. Repairs and maintenance costs are expensed as incurred.

Impairment of Long-Lived Assets

Long-lived assets consist primarily of property and equipment and right-of-use operating lease assets. Long-lived assets to be held and used are tested for recoverability whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Factors that the Company considers in deciding when to perform an impairment review include significant underperformance of the business in relation to expectations, significant negative industry or economic trends and significant changes or planned changes in the use of the assets. If an impairment review is performed to evaluate a long-lived asset group for recoverability, the Company compares forecasts of undiscounted cash flows expected to result from the use and eventual disposition of the long-lived asset group to its carrying value. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of an asset group are less than its carrying amount. The impairment loss would be based on the excess of the carrying value of the impaired asset group over its fair value, determined based on discounted cash flows. To date, the Company has not recorded any impairment losses on long-lived assets.

Deferred Public Offering Costs

Deferred public offering costs, which primarily consist of direct, incremental legal and accounting fees relating to the planned Initial Public Offering ("IPO"), are capitalized within other long-term assets. The deferred public offering costs will be offset against IPO proceeds upon the consummation of the offering. The Company had incurred $2,195 in IPO costs as of December 31, 2021. In 2022, the Company delayed its IPO plan due to adverse market conditions. The delay was considered an aborted IPO and associated deferred offering costs of $2,704 were expensed within general and administrative expenses on the consolidated statement of operations. The decision to abort the IPO does not preclude the Company from pursuing alternative financing options or future capital market transactions.

Other Long-term Assets

At December 31, 2022, other long-term assets consisted of vendor deposits of $2,562 and implementation costs incurred in a cloud computing arrangement that is a service contract of $863. At December 31, 2021, other long-term assets consisted of vendor deposits of $2,562, deferred public offering costs of $2,195 and long-term prepaid expenses of $58.

Fair Value Measurements

Certain assets and liabilities of the Company are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

The Company's cash equivalents, 2022 Convertible Notes and convertible preferred stock warrant liability are carried at fair value, determined according to the fair value hierarchy above (See Note 3). The carrying values of the Company's accounts payable and accrued expenses approximate their fair value due to the short-term nature of these liabilities. The carrying value of the Company's outstanding 2019 Note approximates fair value (a Level 2 fair value measurement), reflecting interest rates currently available to the Company (See Note 6).

Leases

The Company adopted ASC 842, *Leases*, with an initial application date of January 1, 2021, using the modified retrospective method.

At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present in the arrangement. Leases with a term greater than one year are recognized on the balance sheet as right-of-use assets and short-term and long-term lease liabilities, as applicable. The Company's finance lease is immaterial.

At the lease commencement date, the Company recognizes a right-of-use asset and a lease liability for all leases, except short-term leases with an original term of 12 months or less. The Company typically only includes an initial lease term in its assessment of a lease arrangement. Options to renew a lease are not included in the Company's assessment unless there is a reasonable certainty that the Company will renew. The operating lease liabilities and their corresponding right-of-use assets are initially recorded based on the present value of fixed lease payments over the expected lease term. Certain adjustments to the right-of-use asset may be required for items such as incentives received. The interest rate implicit in the lease contracts is typically not readily determinable. As a result, the Company utilizes its incremental borrowing rate to discount lease payments, which reflects the fixed rate at which the Company could borrow on a collateralized basis the amount of the lease payments in the same currency, for a similar term, in a similar economic environment. The Company recognizes operating lease expense on a straight-line basis over the lease term.

Assumptions made by the Company at the commencement date are re-evaluated upon occurrence of certain events, including lease modification. A lease modification results in a separate contract when the modification grants the lessee an additional right of use not included in the original lease and when lease payments increase commensurate with the standalone price for the additional right of use. When a lease modification results in a separate contract, it is accounted for in the same manner as a new lease.

See Note 7—"Leases" and Note 9—"Commitments and Contingencies" for additional information about the Company's leases**.**

Debt Issuance Costs

Debt issuance costs are recorded as a direct reduction to the carrying amount of the related debt liability rather than an asset in accordance with the simplified presentation of debt issuance costs provided by ASU No. 2015-03, *Interest – Imputation of Interest*. Debt issuance costs are amortized as additional interest expense using the effective interest rate method over the term of the debt.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development expenses include salaries, stock-based compensation and employee-related benefits, product development, clinical trial and related clinical manufacturing costs, allocation of facility-related expenses, overhead expenses and other outside expenses. Nonrefundable prepayments for goods or services that will be used or rendered for future research and development activities are deferred and capitalized. Such amounts are recognized as an expense as the goods are delivered or the related services are performed, or until it is no longer expected that the goods will be delivered or the services rendered.

Research Contract Costs and Accruals

The Company has entered into various research and development contracts with companies and individuals globally. These agreements are generally cancelable, and related payments are recorded as research and development expenses as incurred. The Company records accruals for estimated ongoing research and development costs. When evaluating the adequacy of the accrued liabilities, the Company analyzes progress of the studies or projects, including the phase or completion of events, invoices received and contracted costs. Judgments and estimates are made in determining the accrued balance at the end of any reporting period. Actual results could differ from the Company's estimates. The Company's historical accrual estimates have not been materially different from the actual costs.

Patent Costs

All patent-related costs incurred in connection with filing and prosecuting patent applications are recorded as general and administrative expenses as incurred, as recoverability of such expenditures is uncertain.

Convertible Preferred Stock Warrant Liability

The Company classifies a warrant to purchase shares of its Series B convertible preferred stock as a liability on its consolidated balance sheets as the warrant is a free-standing financial instrument that may require the Company to transfer assets upon exercise. The warrant was initially recorded at fair value on the grant date, and it is subsequently remeasured to fair value at each balance sheet date. Changes in fair value of the warrant are recognized as a component of other expenses, net in the consolidated statements of operations and comprehensive loss. The Company will continue to adjust the liability until the earlier of exercise or expiration of the warrant.

The Company uses the Black-Scholes option-pricing model, which incorporates assumptions and estimates, to value the convertible preferred stock warrant. The Company has assessed these assumptions and estimates at each financial reporting period as additional information impacting the assumptions is obtained. Estimates and assumptions impacting the fair value measurement include the fair value per share of the underlying Series B convertible preferred stock, the remaining contractual term of the warrant, risk-free interest rate, expected dividend yield and expected volatility of the price of the underlying convertible preferred stock. The Company determines the fair value per share of the underlying convertible preferred stock by taking into consideration the most recent sales of its convertible preferred stock, results obtained from third-party valuations and additional factors that are deemed relevant. The Company historically has been a private company and lacks company-specific historical and implied volatility information of its stock. Therefore, it estimates its expected stock volatility based on the historical volatility of publicly traded peer companies for a term equal to the remaining contractual term of the warrant. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the remaining contractual term of the warrant. Expected dividend yield is determined considering that the underlying Series B convertible preferred stock is entitled to dividends of 6.0% per year, whether or not declared.

Convertible Notes Payable

The Company elected to apply the fair value option (“FVO”) to its convertible notes payable in accordance with ASC 825, Financial Instruments. Accordingly, the convertible notes payables will be marked to market at each reporting period end. The primary reason for electing the fair value option was to address simplification and cost-benefit considerations that result from accounting for a hybrid financial instrument at fair value in its entirety versus bifurcation of the embedded derivatives from the debt host. See Note 6.

Stock-Based Compensation

The Company measures all stock options and other stock-based awards based on their fair value on the date of the grant. Those awards typically have a graded vesting schedule and compensation expense for awards with only service conditions are recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. Compensation costs recognized for performance-based awards reflect the number of awards that are expected to vest during the requisite service period, and are adjusted to reflect those awards that ultimately vest upon final determination of the performance conditions achieved. Historical performance patterns, to the extent that they are indicative to the performance conditions to be achieved, are used in developing estimates for the probability of attaining these performance conditions.

The Company classifies stock-based compensation expense in its consolidated statements of operations and comprehensive loss in the same manner in which the award recipient’s payroll costs are classified or in which the award recipient’s service payments are classified.

The Company uses the Black-Scholes option pricing model, which incorporates assumptions and estimates, to measure the fair value of its option awards on the date of grant of each stock option award. The Company determines the fair value per share of the underlying common stock by taking into consideration the results obtained from third-party valuations and additional factors that are deemed relevant. The Company historically

has been a private company and lacks company-specific historical and implied volatility information. Therefore, the Company estimates its expected stock volatility based on an analysis of reported data for a publicly traded peer group of companies that granted options with substantially similar terms and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded stock price. The expected term assumption for employee grants is determined by using the "simplified" method for awards that qualify as "plain-vanilla" options. The risk-free interest rate is based on the rate of the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that the Company has never paid cash dividends on common stock and does not expect to pay any cash dividends in the foreseeable future. Forfeitures are accounted for as they occur.

Income Taxes

The Company accounts for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the consolidated financial statements or in the Company's tax returns. Deferred tax assets and liabilities are determined based on the difference between the financial statement carrying amounts and the tax basis of existing assets and liabilities and for loss and credit carryforwards using enacted tax rates in effect in the years in which the differences are expected to reverse. Changes in deferred tax assets and liabilities are recorded in the provision for income taxes. The Company assesses the likelihood that its deferred tax assets will be recovered from future taxable income and, to the extent it believes, based upon the weight of available evidence, that it is more likely than not that all or a portion of the deferred tax assets will not be realized, a valuation allowance is established through a charge to income tax expense. Potential for recovery of deferred tax assets is evaluated by estimating the future taxable profits expected and considering prudent and feasible tax planning strategies.

The Company accounts for uncertainty in income taxes recognized in the financial statements by applying a two-step process to determine the amount of tax benefit to be recognized. First, the tax position must be evaluated to determine the likelihood that it will be sustained upon external examination by the taxing authorities. If the tax position is deemed more-likely-than-not to be sustained, the tax position is then assessed to determine the amount of benefit to recognize in the financial statements. The amount of the benefit that may be recognized is the largest amount that has a greater than 50% likelihood of being realized upon ultimate settlement. The provision for income taxes includes the effects of any resulting tax reserves, or unrecognized tax benefits, that are considered appropriate as well as the related net interest and penalties.

Convertible Preferred Stock

The Company records its convertible preferred stock at fair value on the dates of issuance, net of issuance costs. All shares of convertible preferred stock have been presented outside of stockholders' deficit as the redemption of such shares is outside the Company's control (See Note 10). The Company does not adjust the carrying values of the convertible preferred stock to the redemption value of such stock until such time as a redemption event is probable of occurring.

Comprehensive Loss

Comprehensive loss is comprised of two components: net loss and other comprehensive loss, which includes other changes in stockholders' deficit that result from transactions and economic events other than those with stockholders. The Company had no items qualifying as other comprehensive loss; accordingly, comprehensive loss equaled total net loss for each of the years ended December 31, 2022 and 2021.

Net Loss Per Share

Net loss per share attributable to common stockholders is calculated using the two-class method, which is an earnings allocation formula that determines net loss per share for the holders of the Company's common shares

and participating securities. The Company's Series A, Series B, Series C-1, Series C-2, Series D, Series E, and Series F convertible preferred stock contain participating rights in any dividend paid by the Company and are therefore participating securities. Net loss attributable to common stockholders and participating securities is allocated to each share on an as-converted basis as if all of the earnings for the period had been distributed. However, the participating securities do not include a contractual obligation to share in the losses of the Company and were not included in the calculation of net loss per share in the periods that had a net loss.

Basic net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding during the period. Diluted net loss per share is computed using the more dilutive of (a) the two-class method or (b) the if-converted method and treasury stock method, as applicable. In periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders since dilutive common shares are not assumed to have been issued if their effect is anti-dilutive. Diluted net loss per share is equivalent to basic net loss per share for the years presented herein because common stock equivalent shares from the Series A, Series B, Series C-1, Series C-2, Series D, Series E, and Series F convertible preferred stock, stock option awards and outstanding warrants to purchase common stock and convertible preferred stock (see Note 15) were anti-dilutive.

Emerging Growth Company Status

The Company is an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or JOBS Act, and may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. The Company may take advantage of these exemptions until the Company is no longer an "emerging growth company." Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. The Company has elected to use the extended transition period for complying with new or revised accounting standards and as a result of this election, its consolidated financial statements may not be comparable to companies that comply with public company effective dates. The Company may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of an offering or such earlier time that it is no longer an "emerging growth company".

Recently Adopted Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2019-12, Income Taxes—Simplifying the Accounting for Income Taxes ("ASU 2019-12"). The ASU simplifies the accounting for income taxes by removing certain exceptions to the general principles as well as clarifying and amending existing guidance to improve consistent application. The Company adopted ASU 2019-12 on January 1, 2022 using the prospective basis approach. The adoption of the standard did not have a material impact on the company's consolidated financial statements and related disclosures.

In August 2020, the FASB issued ASU No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40) ("ASU 2020-06"), as part of its overall simplification initiative to reduce costs and complexity of applying accounting standards while maintaining or improving the usefulness of the information provided to users of financial statements. Among other changes, the new guidance removes from GAAP separation models for convertible debt that require the convertible debt to be separated into a debt and equity component, unless the conversion feature is required to be bifurcated and accounted for as a derivative or the debt is issued at a substantial premium. As a result, after adopting the guidance, entities will no longer separately present such embedded conversion features in equity, and will instead account for the convertible debt wholly as debt. The new guidance also requires use of the "if-converted" method when calculating the dilutive impact of convertible debt on earnings per share, which is consistent with the Company's current accounting treatment under the current guidance. The Company

adopted ASU 2020-06 on January 1, 2022, using the modified retrospective approach and upon adoption there was no cumulative effect to retained earnings and no impact to other paid in capital as there were no conversion options previously recorded to equity. There was no impact to the Company's statements of operations or cash flows as the result of the adoption of ASU 2020-06.

In October 2020, the FASB issued ASU No. 2020-10, Codification Improvements ("ASU 2020-10"). The ASU contains improvements to the Codification by ensuring that all guidance that requires or provides an option for an entity to provide information in the notes to financial statements is codified in the disclosure section of the Codification. The ASU also improves various topics in the Codification so that entities can apply guidance more consistently on codifications that are varied in nature where the original guidance may have been unclear. The Company adopted ASU 2020-06 on January 1, 2022. The adoption of the standard did not have a material impact on the company's consolidated financial statements and related disclosures.

Recently Issued Accounting Pronouncements

The Company has evaluated recently issued accounting pronouncements and determined that there are no such pronouncements that have a material impact on its consolidated financial statements and related disclosures.

3. Fair Value Measurements

The following tables present information about the Company's financial assets and liabilities measured at fair value on a recurring basis and indicate the level of fair value hierarchy utilized to determine such fair values:

	Fair Value measurements as of December 31, 2022			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents—money market funds	$ 1	$ —	$ —	$ 1
	$ 1	$ —	$ —	$ 1
Liabilities:				
Convertible notes payable	$ —	$ —	$17,760	$17,760
Convertible preferred stock warrant liability	—	—	407	407
	$ —	$ —	$18,167	$18,167

	Fair Value measurements as of December 31, 2021			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents—money market funds	$ 2	$ —	$ —	$ 2
	$ 2	$ —	$ —	$ 2
Liabilities:				
Convertible preferred stock warrant liability	$ —	$ —	$ 544	$544
	$ —	$ —	$ 544	$544

During the years ended December 31, 2022 and 2021, there were no transfers between Level 1, Level 2 and Level 3.

See Note 6—"Notes Payable" for the discussion of the fair value methodology of the convertible notes payable and a rollforward of the fair value.

See Note 8—"Convertible Preferred Stock Warrant Liability" for the discussion of the fair value methodology of the convertible preferred stock warrants and a rollforward of the fair value.

4. Property and Equipment, Net

Property and equipment, net consisted of the following:

	December 31,	
	2022	2021
Computer and office equipment	$ 844	$ 927
Laboratory and manufacturing equipment	521	812
Website development costs	40	40
Leasehold improvements	3,466	3,473
	4,871	5,252
Less: accumulated depreciation	(4,545)	(4,529)
	$ 326	$ 723

Depreciation expense for the years ended December 31, 2022 and 2021 were $452 and $676, respectively.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

	December 31,	
	2022	2021
Payroll and payroll-related expenses	$2,760	$1,851
External research and development services	1,519	1,784
Professional fees and consulting services	766	2,272
Other current liabilities	36	103
	$5,081	$6,010

6. Notes Payable

2019 Note

In February 2019, the Company entered into a loan and security agreement (the "2019 Note") with a lender that provided for borrowings of up to $15,000 in two term loan advances defined as "Term A Loan" and "Term B Loan", collectively referred to as "Term Loans". Under Term A Loan, the Company may borrow up to $10,000 by June 30, 2019 with an initial draw of $3,000 upon execution of the 2019 Note and optional additional borrowings at a minimum increment of $2,500. Under Term B Loan, the Company may borrow $5,000 upon achieving certain clinical milestones as defined in the 2019 Note, by December 31, 2019. On February 5, 2019, the Company drew down $3,000 under Term A Loan, and on May 31, 2019, the Company drew down an additional $7,000 under Term A Loan. On October 3, 2019, the Company drew down $5,000 under Term B Loan.

The outstanding balances under the Term Loans bear interest at a floating annual rate that equals the greater of 1.5% above the Wall Street Journal prime rate or 6.75%. The Term Loans initially required interest-only repayments through December 31, 2020. After the interest-only period, the Term Loans require 24 equal monthly principal repayments of the outstanding balances plus accrued interest through the maturity date on December 1, 2022. Borrowings under the 2019 Note are secured by substantially all assets of the Company and assets the Company may acquire in the future, other than intellectual property, except for proceeds from intellectual property outstanding.

There are no financial covenants associated with the 2019 Note; however, there are certain operating and negative covenants restricting the Company's activities, including limitations on dispositions, mergers or acquisitions, encumbering or granting a security interest in its intellectual property, incurring indebtedness or liens, paying dividends, making certain investments and engaging in certain other business transactions. The obligations under the 2019 Note are subject to acceleration upon the occurrence of specified events of default, including a material adverse change in the Company's business, operations or financial or other condition.

The 2019 Note provides for certain prepayment premiums should the Company make early payments of any principal balances prior to the maturity date. Upon occurrence of either payment default or covenant default, the lender may take one of the following actions: i) declare that all obligations are immediately due and payable; ii) stop advancing money; iii) demand that the Company deposit cash collateral with the lender.

On the date that the 2019 Note is paid in full or becomes due and payable, the Company will make a payment (the "Final Payment"), in addition to the regular monthly payments of principal plus accrued interest, equal to 6% of the original principal amount of the Term Loans extended by the lender. The Final Payment is being accreted as additional interest expense over the term of the respective Term Loans using the effective interest rate method.

In February 2019, in connection with entering into the 2019 Note, the Company issued to the lender and an affiliated investor warrants to purchase up to an aggregate of 257,380 shares of the Company's common stock with par value of $0.00001 per share, at an exercise price of $1.55 per share (the "2019 Warrants"). Of the 257,380 shares, 171,606 shares were exercisable upon the issuance of the warrants and an additional 85,774 shares became exercisable upon the drawdown of the Term B Loan. The warrants have a contractual term of ten years from issuance. The Company recorded the total fair value of the warrants of $284 as debt discount and additional paid-in capital. The debt discount recorded by the Company also included $24 of fees paid to lenders and $25 of debt issuance costs. The debt discount is being amortized as additional interest expense over the term of the respective Term Loans using the effective interest rate method. The 2019 Warrants were not exercised from its inception through December 31, 2022.

First Amendment to 2019 Note

On December 31, 2020, the Company entered into the First Amendment to the 2019 Note (the "First Amendment") whereby the Term Loans were amended to revise the interest-only repayment terms.

The First Amendment extended interest-only payments through January 31, 2021. After the interest-only period, the First Amendment requires 23 equal monthly principal repayments of the outstanding balance plus accrued interest starting from February 1, 2021 through the maturity date of December 1, 2022. Upon achieving certain milestones as specified in the First Amendment, the interest-only payment may be extended through July 31, 2021 with the principal to be repaid equally over 17 consecutive calendar months starting August 1, 2021 and may be further extended through December 31, 2021 with principal to be repaid equally over 12 consecutive calendar months starting January 1, 2022.

In connection with entering into the First Amendment, the Company issued to the lender and an affiliated investor, warrants to purchase up to an aggregate of 89,452 shares of the Company's common stock, par value $0.00001 per share, at an exercise price of $1.81 per share (the "2020 Warrants"). The 2020 Warrants expire ten years from the date of issuance on December 30, 2030.

The Company accounted for the First Amendment as a debt modification in accordance with ASC 470-50, *Modifications and Extinguishments*. As such, unamortized fees will continue to be deferred and amortized, any new creditor fees were capitalized and amortized as part of the effective yield and new fees paid to third parties were expensed.

The Company recorded the total fair value of the 2020 Warrants of $105 as debt discount and additional paid-in capital. The debt discount recorded by the Company also included $8 of debt issuance costs. The debt discount was being amortized as additional interest expense over the term of the respective Term Loans using the effective interest rate method. The 2020 Warrants were not exercised through December 31, 2022.

The fair value of the 2020 Warrants was determined using the Black-Scholes option-pricing model with the following assumptions:

Risk-free interest rate	0.9%
Weighted average expected term (in years)	10.0
Weighted average expected volatility	57%
Weighted average expected dividend yield	0%
Fair value of common stock per share	$1.81

Second Amendment to 2019 Note

On February 26, 2021, the Company entered into the Second Amendment to the 2019 Note (the "Second Amendment") to further revise the interest-only repayment terms amended by the First Amendment.

The Second Amendment extended interest-only payments through July 31, 2021, upon the achievement of a certain milestone event, as defined in the Second Amendment. After the interest-only period, the Second Amendment requires 17 equal monthly principal repayments of the outstanding balance plus accrued interest through the maturity date of December 1, 2022. Upon achieving additional milestone events as specified in the Second Amendment, the interest-only payment may be extended to December 31, 2021, with principal to be repaid equally over 12 consecutive calendar months through the maturity date of December 1, 2022.

The Company accounted for the Second Amendment as a debt modification in accordance with ASC 470-50, *Modifications and Extinguishments*. As such, unamortized fees will continue to be deferred and amortized. New creditor fees related to the Second Amendment were immaterial.

In June 2021, upon achievement of certain milestones in the Second Amendment, the interest-only payment was extended through January 1, 2022. All principal under the Term Loans will be repaid over 12 consecutive calendar months in the year ending December 31, 2022.

For the year ended December 31, 2021, the Company recognized total interest expense of $1,457 related to the 2019 Note, which included additional interest expense of $431 associated with the accretion of the Final Payment and the amortization of the debt discount. The effective annual interest rate of the 2019 Note was 9.72% for the year ended December 31, 2021.

On January 3, 2022, the Company fully paid off the 2019 Note by making a lump-sum payment to the lender of the Term Loans for a total amount of $16,130, which consisted of the outstanding principal balance of the Term Loans of $15,000, the Final Payment of $900, the prepayment premium of $137 and accrued interest of $93. A loss from debt extinguishment of $313 was recognized as a nonoperating expense in the consolidated statement of operations during the year ended December 31, 2022 as a result of the early payoff of the 2019 Note.

2022 Convertible Notes

On January 11, 2022, the Company entered into a financing arrangement with certain lenders (the "Lenders") in which the Company issued convertible promissory notes in exchange for an aggregate principal amount of $20,075 (the "2022 Convertible Notes"). Interest accrues on the unpaid principal balance of the 2022 Convertible Notes at the rate of 3% per year until it is paid or converted in full. Subject to the conversion provisions set forth, all principal and accrued interest shall be due and payable on July 11, 2023 (the "Maturity Date").

Effective upon the closing of an equity financing event, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes will automatically be converted into shares of the same class and series of capital stock of the Company issued to other investors in the financing event at a conversion price equal to (i) in the event of an IPO, 80% of the price per share of the public company securities paid by other investors in the IPO; or (ii) in the event of a non-IPO, 80% of the opening price on the applicable stock exchange on the closing date; or (iii) in the event of a private financing round, 80% of the price per share of the financing securities paid by other investors in the financing round. In no event should the conversion price be a) less than the amount equal to $875,000 divided by our fully diluted capitalization as of immediately prior to the closing of the financing event (the "Floor Valuation"); or (b) more than an amount equal to $1,100,000 divided by the Company's fully diluted capitalization as of immediately prior to the closing of the financing event (the "Valuation Cap").

In the event of a Change of Control of the Company, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes will, at the option of the Lenders, (1) be repaid in cash as of the closing of such Change of Control; or (2) be converted into common stock of the Company at a conversion price equal to 80% of the fair market value of the Company's common stock as determined in good faith by the Company's Board of Directors, provided that, if the successor company is a publicly traded issuer, the conversion price will be determined by a volume-weighted average price per share of the successor company's stock on the applicable stock exchange for the five trading days prior to the Change of Control; and provided further that, in the event stockholders are to receive any non-cash consideration pursuant to the Change of Control, the Lenders shall receive the same non-cash consideration, in the same proportion, and the value of such non-cash consideration received by the Lenders shall be determined in accordance with the agreement governing such Change of Control. In no event should the conversion price be less than the Floor Valuation or more than the Valuation Cap.

In the event the 2022 Convertible Notes is still outstanding on the Maturity Date, or from and after the date and during the continuation of an Event of Default, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes will be converted, at the option of the holders, into shares of the Company's Series F Preferred Stock at a conversion price equal to the lesser of (a) $8.3843 per share or (b) the Valuation Cap.

There are no financial covenants associated with the 2022 Convertible Notes, however the 2022 Convertible Notes do contain customary events of default, subject to rights and remedies generally applicable to federal law or the laws of the State of Delaware. As of December 31, 2022, the Company was in compliance with the terms of the arrangement.

The fair value of the 2022 Convertible Notes was estimated using a scenario-weighted binomial lattice model to calculate equity values at different points in time leading up to a conversion event. Assumptions in the model include but are not limited to the following: equity value, volatility, time to conversion event (IPO or non-IPO), scenario weightings and risk-free rate.

This fair value measurement was based on significant inputs that were not observable in the market and represented a Level 3 measurement. The following table provides a rollforward of the fair value of the 2022 Convertible Notes:

	Fair Value
Original balance at issuance as of January 11, 2022	$20,075
Change in fair value	(2,315)
Balance as of December 31, 2022	$17,760

Transaction costs incurred during the years ended December 31, 2022 and 2021 related to the issuance of the 2022 Convertible Notes were immaterial and were expensed as incurred. Accrued interest on the 2022 Convertible Notes was incorporated into the determination of the fair value of the 2022 Convertible Notes.

7. Leases

Lexington Lease

In November 2015, the Company entered into a lease agreement for office and laboratory space in Lexington, Massachusetts with the lease term covering a seven-year period from May 1, 2016 through April 30, 2023 (the "Lexington Lease"). The Lexington facility includes 30,000 square feet of office and laboratory space and has been occupied by the Company since August 2016. The Lexington Lease includes a provision for a $3,000 tenant improvement allowance, which was funded by the lessor in 2016. The Lexington Lease does not contain any material residual value guarantees or material restrictive covenants. The Company is not involved in the construction or design of the additional underlying asset, aside from constructing leasehold improvements. The Company is obligated to pay its portion of real estate taxes and costs, including costs of operations, maintenance, repair, replacement, and management of the Lexington Lease.

The Company recognized right-of-use assets and lease liabilities for such leases in connection with its adoption of ASC 842 as of January 1, 2021. The Company reports operating lease right-of-use assets in right-of-use lease assets and the current and non-current portions of its operating lease liabilities in lease liabilities, current and lease liabilities, long-term, respectively, on its Consolidated Balance Sheet. The discount rate used to calculate lease liabilities was the Company's estimated incremental borrowing rate of 6.75%.

In June 2022, the Company extended the term of the Lexington Lease for twelve months commencing on May 1, 2023 and expiring on April 30, 2024. The extended term will expire on April 30, 2024 unless terminated earlier in accordance with the terms of the lease and the Company shall have no option to further extend the lease upon the expiration date. The total fixed lease payment during the extended term is $1,590.

The extension of the lease has resulted in a revision to the lease term, which has been accounted for as a modification in accordance with ASC 842. As a result of the lease modification, the Company has reassessed the lease liability and right-of-use asset related to the lease. The reassessment involves the remeasurement of the present value of future lease payments, considering the revised lease term and any changes in lease payments, including any adjustments due to changes in discount rate. The Company reassessed its incremental borrowing rate at the time of the lease modification to be 11.75%, which was used as the discount rate in the remeasurement of the lease liabilities. The lease extension resulted in an addition of the operating right-of-use asset and lease liability of $1,352 on the date of the modification.

Burlington Lease

In August 2022, the Company entered into a lease agreement for office and laboratory space in Burlington, Massachusetts, encompassing a rentable area of 78,000 square feet (the "Burlington Lease"). The lease contains a total lease term of 128 months, which includes an initial eight-month period of free rent and a remaining lease term of 10 years, subject to total lease payments of $59,284. Additionally, the Burlington Lease incorporates a five-year renewal option exercisable at the Company's discretion.

The commencement of the Burlington Lease is contingent upon the substantial completion of the lessor's construction of the facility. As of December 31, 2022, the leased space was still undergoing construction and the Company had not yet taken control and possession. The estimated lease commencement date is November 1, 2023, upon which the Company will recognize the right-of-use asset and lease liability associated with the Burlington Lease on its Consolidated Balance Sheet in accordance with ASC 842.

The following table is a summary of the components of lease expenses for the years ended December 31, 2022 and 2021:

	2022	2021
Operating lease cost	$ 805	$510
Short-term lease cost	155	—
Variable lease cost	223	234
Total lease cost	$1,183	$744

Supplemental cash flow information related to leases for the years ended December 31, 2022 and 2021 are as follows:

	2022	2021
Operating cash flows paid for operating leases	$1,268	$1,043

The following table summarizes the maturity of lease liabilities under operating leases as of December 31, 2022:

Year Ending December 31,	
2023	$1,463
2024	397
Total future minimum lease payments	1,860
Less: Imputed interest	145
Total lease liabilities	$ 1,715

Future minimum payments under operating leases above do not include those committed under short-term leases and leases not yet commenced.

The Company has an obligation to maintain letters of credit as security deposits for its office space leases, which are held in favor of the respective lessors. These letters of credit were initially issued for a period of 12 months, with automatic annual renewal until the expiration date specified in the lease agreements. As of December 31, 2022, the Company had a total of $4,555 outstanding in letters of credit associated with its leases, of which $4,255 is collateralized by cash maintained in collateral bank accounts. The balance of the cash maintained in the collateral bank accounts has been included in restricted cash on the Company's Consolidated Balance Sheet.

8. Convertible Preferred Stock Warrant Liability

In January 2014, the Company issued a fully vested warrant to purchase 118,483 shares of the Company's Series B convertible preferred stock in connection with the 2014 Note. The warrant was immediately exercisable at an exercise price of $1.266 per share and has a contractual term of ten years from issuance. The fair value of the warrant at issuance was $48 and was recorded as a convertible preferred stock warrant liability. This amount was recorded as a debt discount and was being amortized to interest expense over the term of the note. The warrant was not exercised from its inception through December 31, 2022.

The Company re-measures the fair value of the liability for this convertible preferred stock warrant at each reporting date, with any adjustments being recorded as a component of other expenses in the Company's consolidated statements of operations and comprehensive loss. The Company recorded related expense of $137 and $356 for the years ended December 31, 2022 and 2021, respectively.

Due to the lack of market quotes relating to the Company's convertible preferred stock warrants, the fair value of the convertible preferred stock warrants was determined using the Black-Scholes model, which is based on Level 3 inputs. The following table provides a rollforward of the fair value of the Company's warrant liability:

	Fair Value
Balance as of December 31, 2021	$ 544
Change in fair value	(137)
Balance as of December 31, 2022	$ 407

The fair value was determined using the Black-Scholes option-pricing model with the following assumptions:

	Year Ended December 31,	
	2022	2021
Risk-free interest rate	4.7%	0.7%
Expected term (in years)	1.1	2.1
Expected volatility	51%	66%
Expected Dividend yield	6%	6%
Fair value of Series B convertible preferred stock per share	$4.93	$6.55

9. Commitments and Contingencies

Guarantees and Indemnification Obligations

The Company enters into standard indemnification agreements in the ordinary course of business. Pursuant to these agreements, the Company indemnifies and agrees to reimburse the indemnified party for losses and costs incurred by the indemnified party in connection with any patent, copyright, trade secret or other intellectual property or personal right infringement claim by any third party with respect to the Company's technology. The term of these indemnification agreements is generally perpetual after execution of the agreement. In addition, the Company has entered into indemnification agreements with members of its board of directors that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of its status or service as directors or officers. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. To date, the Company has not incurred any losses or any material costs related to this indemnification obligation and no claims with respect thereto were outstanding. The Company does not believe that the outcome of any claims under indemnification arrangements will have a material effect on its financial position, results of operations and cash flows, and it has not accrued any liabilities related to such obligations in its consolidated financial statements as of December 31, 2022 and 2021.

10. Convertible Preferred Stock

The Company has issued Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock (collectively, the "Convertible Preferred Stock"). The holders of Convertible Preferred Stock have liquidation rights in the event of a deemed liquidation that, in certain circumstances, is not solely within the control of the Company. Therefore, the Convertible Preferred Stock is classified outside of stockholders' deficit. The Company's certificate of incorporation, as amended and restated, authorized the Company to issue 78,112,639 shares of $0.00001 par value convertible preferred stock as of December 31, 2022 and 2021.

In June 2021 through July 2021, the Company issued a total of 11,927,048 shares of Series F convertible preferred stock (the "Series F Convertible Preferred Stock") at $8.3843 per share to investors for net proceeds of $99,846, net of issuance costs of $154. The Series F Convertible Preferred Stock has the same rights and preferences as the Series A, Series B, Series C-1, Series C-2, Series D and Series E Convertible Preferred Stock.

In June 2021, contemporaneous with the Series F Convertible Preferred Stock financing, the shareholders of the Company approved a reduction of the authorized shares of Series E Convertible Preferred Stock by 4,646,797 shares to 12,838,573 shares.

As of each balance sheet date, Convertible Preferred Stock consisted of the following:

	December 31, 2022				
	Convertible Preferred Shares Authorized	Convertible Preferred Shares Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Series A Convertible Preferred Stock	5,500,000	5,500,000	$ 6,510	$ 9,303	5,500,000
Series B Convertible Preferred Stock	11,451,453	11,332,970	15,459	22,798	11,332,970
Series C-1 Convertible Preferred Stock	9,064,640	9,064,640	20,114	30,428	9,064,640
Series C-2 Convertible Preferred Stock	15,336,464	15,336,464	47,129	67,383	15,336,464
Series D Convertible Preferred Stock	11,994,461	11,994,461	43,899	58,460	11,994,461
Series E Convertible Preferred Stock	12,838,573	12,838,573	54,373	64,223	12,838,573
Series F Convertible Preferred Stock	11,927,048	11,927,048	99,846	109,306	11,927,048
	78,112,639	77,994,156	$ 287,330	$ 361,901	77,994,156

	December 31, 2021				
	Convertible Preferred Shares Authorized	Convertible Preferred Shares Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Series A Convertible Preferred Stock	5,500,000	5,500,000	$ 6,510	$ 8,974	5,500,000
Series B Convertible Preferred Stock	11,451,453	11,332,970	15,459	21,939	11,332,970
Series C-1 Convertible Preferred Stock	9,064,640	9,064,640	20,114	29,216	9,064,640
Series C-2 Convertible Preferred Stock	15,336,464	15,336,464	47,129	64,561	15,336,464
Series D Convertible Preferred Stock	11,994,461	11,994,461	43,899	55,821	11,994,461
Series E Convertible Preferred Stock	12,838,573	12,838,573	54,373	60,917	12,838,573
Series F Convertible Preferred Stock	11,927,048	11,927,048	99,846	103,306	11,927,048
	78,112,639	77,994,156	$ 287,330	$ 344,734	77,994,156

In January 2014, the Company issued a fully vested warrant to purchase 118,483 shares of the Company's Series B Convertible Preferred Stock in connection with the 2014 Note (See Note 8).

The holders of the Convertible Preferred Stock have the following rights and preferences:

Voting

The holders of the Convertible Preferred Stock are entitled to vote, together with the holders of common stock, on all matters submitted to stockholders for a vote and have the right to vote the number of shares equal to the number of shares of common stock into which such Convertible Preferred Stock could convert on the record date for determination of stockholders entitled to vote. In addition, holders of Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock, voting as a separate class, are entitled to elect four directors of the Company.

Dividends

The holders of Convertible Preferred Stock are entitled to receive cumulative dividends in preference to any dividend on common stock at the rate of 6.0% of the Original Issue Price (as defined below) per share, per annum. Dividends are payable only when, as, and if declared by the board of directors. No dividends have been declared or paid by the Company since its inception in August 2010. The Original Issue Price is $1.00 per share for Series A convertible preferred stock, $1.266 per share for Series B convertible preferred stock, $2.2356 per share for Series C-1 convertible preferred stock, $3.0756 per share for Series C-2 convertible preferred stock, $3.6667 per share for Series D convertible preferred stock, $4.2893 per share for Series E convertible preferred stock and $8.3843 per share for Series F convertible preferred stock subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to Convertible Preferred Stock.

Liquidation Preference

In the event of any liquidation, voluntary or involuntary, dissolution or winding up of the Company or Deemed Liquidation Event (as defined below), holders of the Convertible Preferred Stock are entitled to receive, in preference to all other stockholders, and to the extent available, an amount equal to the Original Issue Price per share, adjusted for any stock dividends, stock splits or reclassifications, plus any accruing dividends accrued but unpaid, whether or not declared, together with any other dividends declared but unpaid. In the event that proceeds are not sufficient to permit payment in full to these holders, the proceeds will be ratably distributed among the holders of the Convertible Preferred Stock on a *pari passu* basis to the full preferential amount each such holder is otherwise entitled to receive.

After payments have been made in full to the holders of the Convertible Preferred Stock, then, to the extent available, holders of the common stock will receive the remaining amounts available for distribution ratably in proportion to the number of common shares held by them provided, however, if the holders of any series of the Convertible Preferred Stock would receive a greater amount of the proceeds if they had converted their shares of the Convertible Preferred Stock, then such holders shall not receive any proceeds under the preceding paragraph and will receive proceeds on an as converted to common stock basis.

Unless the holders of at least 60.0% of the then outstanding shares of the Convertible Preferred Stock, voting together as single class, elect otherwise, a Deemed Liquidation Event shall include a merger or consolidation (other than one in which stockholders of the Company own a majority by voting power of the outstanding shares of the surviving or acquiring corporation) or a sale, lease, transfer, exclusive license or other disposition of all or substantially all of the assets of the Company.

Conversion

Each share of Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock is convertible into common stock. Prior to authorization of the Series C-1 Convertible Preferred Stock, Series A Convertible Preferred Stock and Series B Convertible Preferred Stock was convertible into common stock, at the option of the stockholder at any time after the date of issuance. Upon authorization of the Series C-1 Convertible Preferred Stock, each class of the Convertible Preferred Stock is convertible into common stock, at the option of the stockholder, beginning two years after the effective issuance date, or August 2016. Each share of Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock will automatically be converted into shares of common stock, at the applicable conversion ratio of each series then in effect, (i) upon a qualified public offering, defined as the closing of a firm commitment underwritten public offering in which the gross proceeds raised equal or exceed $60,000; (ii) the consummation of a qualified SPAC transaction; or (iii) a date and time, or occurrence of an event specified by vote or written consent of 60.0% of the holders of the then outstanding shares of Convertible Preferred Stock.

The conversion ratio of each series of the Convertible Preferred Stock is determined by dividing the Original Issue Price of each series of convertible preferred stock by the Conversion Price of each series. The

Conversion Price is $1.00 for Series A Convertible Preferred Stock, $1.266 for Series B Convertible Preferred Stock, $2.2356 for Series C-1 Convertible Preferred Stock, $3.0756 for Series C-2 Convertible Preferred Stock, $3.6667 for Series D Convertible Preferred Stock, $4.2893 per share for Series E Convertible Preferred Stock and $8.3843 per share for Series F Convertible Preferred Stock, resulting in a conversion ratio of 1-for-1 for each series of the Convertible Preferred Stock.

Redemption

Prior to August 19, 2014, the carrying values of the Series A Convertible Preferred Stock and Series B Convertible Preferred Stock were being accreted to their redemption values through March 8, 2018. Upon the closing of the Series C-1 convertible preferred stock financing, the redemption rights of the Series A Convertible Preferred Stock and Series B Convertible Preferred Stock were removed. As a result of the removal of the redemption rights, as of August 19, 2014, the Company ceased the periodic recording of adjustments to accrete the carrying values of Series A Convertible Preferred Stock and Series B Convertible Preferred Stock to each of their redemption values. None of the series of the Company's convertible preferred stock are redeemable as of December 31, 2022.

11. Common Stock

The Company's certificate of incorporation, as amended and restated, authorized the Company to issue 107,000,000 shares of $0.00001 par value common stock as of December 31, 2022 and 2021. The voting, dividend and liquidation rights of the holders of the Company's common stock are subject to and qualified by the rights, powers and preferences of the holders of the Convertible Preferred Stock set forth above.

Each share of common stock entitles the holder to one vote on all matters submitted to a vote of the Company's stockholders. Common stockholders are entitled to receive dividends whenever funds are legally available and when declared by the board of directors, subject to the prior rights of holders of all classes of stock outstanding. When dividends are declared on shares of common stock, the Company must declare at the same time a dividend payable to the holders of the Convertible Preferred Stock equivalent to the dividend amount they would receive if each preferred share were converted into common stock. The Company may not pay dividends to common stockholders until all dividends accrued or declared but unpaid on the Convertible Preferred Stock have been paid in full. No dividends have been declared to date.

As of December 31, 2022, the Company had 102,589,055 shares of common stock available for the conversion of outstanding shares of the Convertible Preferred Stock (See Note 10), the exercise of outstanding stock options and the number of shares remaining available for grant under the Company's 2011 Stock Incentive Plan (See Note 12) as well as the exercise of the warrant to purchase common stock (See Note 6) and Series B convertible preferred stock (See Note 8), assuming the warrant to purchase Series B convertible preferred stock became a warrant to purchase common stock at the applicable Series B convertible preferred stock conversion ratio.

12. Stock-Based Compensation

The Company's 2011 Stock Incentive Plan, as amended, (the "Plan") provides for the Company to sell or issue common stock or restricted common stock, or to grant incentive stock options or nonqualified stock options for the purchase of common stock, to employees, officers, directors, consultants and advisors of the Company. Incentive stock options may only be granted to employees. The Plan is administered by the board of directors, or at the discretion of the board of directors, by a committee of the board. The exercise prices, vesting and other restrictions are determined at the discretion of the board of directors, or their committee if so delegated, except that the exercise price per share of stock options may not be less than 100% of the fair market value of the share of common stock on the date of grant and the term of stock option may not be greater than ten years. The Company values its common stock by taking into consideration its most recently available valuation of common

stock performed by an independent valuation analyst engaged by management and the board of directors, as well as additional factors which may have changed since the date of the most recently available valuation through the date of grant. The Company generally grants stock-based awards with service conditions only ("service-based" awards).

Stock options granted under the Plan generally vest over four years, with some options having a 25% vesting after one year and the balance vesting pro rata each month and others vesting pro rata each month. The Company also issues performance-based awards from time to time, which are expensed based on the number of options ultimately expected to vest.

The total number of shares of common stock that may be issued under the Plan was 25,740,000 as of December 31, 2022 and 2021, of which 3,091,915 and 4,131,844 were available for future grant as of December 31, 2022 and 2021, respectively.

Stock Option Valuation

The assumptions that the Company used to determine the fair value of stock options granted were as follows:

	Year Ended December 31,	
	2022	2021
Risk-free interest rate	1.8%—4.2%	0.9%—1.2%
Weighted average expected term (in years)	5.9	6.0
Weighted average expected volatility	58%	59%
Weighted average expected dividend yield	0%	0%
Fair value of common stock per share	$4.11	$3.25

Stock Options

The following table summarizes the Company's stock option activity since December 31, 2021:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at December 31, 2021	17,738,374	$ 1.51	5.9	$ 71,070
Grant	4,306,932	4.36		
Exercised	(361,163)	0.89		
Forfeited	(3,267,003)	3.08		
Outstanding at December 31, 2022	18,417,140	$ 1.91	5.6	$ 35,496
Options exercisable at December 31, 2022	13,751,784	$ 1.40	4.4	$ 33,245

The weighted average grant-date fair value of stock options granted during the years ended December 31, 2022 and 2021 was $2.09 and $1.76 per share, respectively. The total intrinsic value of stock options exercised during the years ended December 31, 2022 and 2021, was $1,568 and $324, respectively.

The aggregate intrinsic value of stock options is calculated as the difference between the exercise price of the stock options and the fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the Company's common stock. The total fair value of stock options vested during the years ended December 31, 2022 and 2021 was $2,662 and $2,084, respectively.

Stock-Based Compensation Expense

The Company recorded stock-based compensation expense related to stock options in the following expense categories within its consolidated statements of operations and comprehensive loss:

	Year Ended December 31,	
	2022	2021
Research and development expenses	$1,486	$1,034
General and administrative expenses	1,652	1,057
	$3,138	$2,091

Total unrecognized stock-based compensation expense for all stock-based awards was $8,786 as of December 31, 2022, which is expected to be recognized over a weighted average period of 3.0 years.

13. Income Taxes

During the years ended December 31, 2022 and 2021, the Company recorded no income tax benefits for the net operating losses incurred in each year due to its uncertainty of realizing a benefit from those items. The majority of the Company's losses before income taxes were generated in the United States.

A reconciliation of the U.S. federal statutory income tax rate to the Company's effective income tax rate is as follows:

	Year Ended December 31,	
	2022	2021
Federal statutory income tax rate	21.0%	21.0%
State income taxes, net of federal benefit	8.0	4.8
Research and development tax credits	4.3	3.9
Permanent differences	—	(0.6)
Change in fair value of convertible notes payable	1.0	—
Non-deductible stock compensation	(0.9)	—
Return to provision	0.1	—
Change in valuation allowance	(33.5)	(29.1)
Effective income tax rate	—%	—%

Net deferred tax assets as of December 31, 2022 and 2021 consisted of the following:

	December 31,	
	2022	2021
Deferred tax assets:		
Net operating loss carryforwards	$ 58,314	$ 53,593
Research and development tax credit carryforwards	11,330	8,616
Lease liabilities	461	349
Stock-based compensation expense	1,924	1,827
Accrued expenses and other	247	409
Capitalized patent and trademark costs	1,161	1,056
Capitalized research and development	8,293	—
Other	38	157
Total deferred tax assets	81,768	66,007
Deferred tax liabilities:		
Right-of-use lease assets	(355)	(169)
Valuation allowance	(81,413)	(65,838)
Net deferred tax assets	$ —	$ —

As of December 31, 2022, the Company had federal net operating loss carryforwards of $215,270, of which $82,672 begin to expire in 2030 and $132,598 will carryforward indefinitely. In addition, the Company had state net operating loss carryforwards of $207,826 which begin to expire at various dates beginning in 2030. As of December 31, 2022, the Company also had available research and development tax credit carryforwards for federal and state income tax purposes of $8,493 and $3,590, respectively, which begin to expire in 2031 and 2027, respectively.

Utilization of the net operating loss carryforwards and research and development tax credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986 due to ownership changes that have occurred previously or that could occur in the future. These ownership changes may limit the amount of net operating loss and research and development credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. The Company has not currently completed an evaluation of ownership changes through December 31, 2022 to assess whether utilization of the Company's net operating loss or research and development credit carryforwards would be subject to an annual limitation under Section 382. To the extent an ownership change occurs in the future, the net operating loss and credit carryforwards may be subject to limitation. Further, until a study is completed and any limitation is known, no amounts are being presented as an uncertain tax position.

The Company has not yet conducted a study of its research and development credit carryforwards. This study may result in an increase or decrease to the Company's credit carryforwards; however, until a study is completed and any adjustment is known, no amounts are being presented as an uncertain tax position. A valuation allowance has been provided against the Company's credits, and if an adjustment is required, this adjustment would be offset by an adjustment to the valuation allowance. As a result, there would be no impact to the consolidated statements of operations and comprehensive loss or consolidated statements of cash flows if an adjustment were required.

The Company has evaluated the positive and negative evidence bearing upon its ability to realize its deferred tax assets, which are comprised principally of net operating losses and research and development tax credit carryforwards. Management has considered the Company's history of cumulative net losses incurred since inception and its lack of commercialization of any products or generation of any revenue from product sales since inception and has concluded that it is more likely than not that the Company will not realize the benefits of

the deferred tax assets. Accordingly, a full valuation allowance has been established against the deferred tax assets as of December 31, 2022 and 2021. Management reevaluates the positive and negative evidence at each reporting period.

Changes in the valuation allowance for deferred tax assets during the year ended December 31, 2022 and 2021 related primarily to the increase in federal and state net operating loss carryforwards and available research and development credits and were as follows:

	Year Ended December 31,	
	2022	2021
Valuation allowance at beginning of year	$65,838	$54,579
Increases recorded to income tax provision	15,575	11,259
Valuation allowance at end of year	$81,413	$65,838

The Company's policy is to recognize interest and penalties for uncertain tax position as a component of income tax expense. The Company has not recorded any amounts for unrecognized tax benefits, interest, or penalties historically through December 31, 2022.

The Company files tax returns as prescribed by the tax laws of the jurisdictions in which it operates. In the normal course of business, the Company is subject to examination by federal and state jurisdictions, where applicable. There are currently no pending tax examinations. The Company's tax returns are still open under statute from 2019 to the present, however carryforward attributes that were generated prior to January 1, 2019 may still be adjusted upon examination by federal or state tax authorities if they have been or will be utilized in a future period.

14. 401(k) Savings Plan

The Company maintains a defined contribution savings plan under Section 401(k) of the Internal Revenue Code. This plan covers substantially all U.S. employees who meet minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax and or after-tax basis. Company contributions to the plan may be made at the discretion of the Board of Directors. The Company has not made any matching or discretionary contributions to date under the 401(k) savings plan.

15. Net Loss Per Share

The following securities that could potentially dilute basic net loss per share in the future were not included in the computation of diluted net loss per share for the periods presented, because to do so would have been antidilutive:

	Year Ended December 31,	
	2022	2021
Series A Convertible Preferred Stock	5,500,000	5,500,000
Series B Convertible Preferred Stock	11,332,970	11,332,970
Series C-1 Convertible Preferred Stock	9,064,640	9,064,640
Series C-2 Convertible Preferred Stock	15,336,464	15,336,464
Series D Convertible Preferred Stock	11,994,461	11,994,461
Series E Convertible Preferred Stock	12,838,573	12,838,573
Series F Convertible Preferred Stock	11,927,048	11,927,048
Outstanding stock options	18,417,140	17,738,374
Common stock warrants	346,832	346,832
Series B Convertible Preferred Stock warrants	118,483	118,483
Total	96,876,611	96,197,845

16. Subsequent Events

On July 11, 2023, the Company paid $78 to settle in full the outstanding principal and accrued interest owed to one of the lenders under the 2022 Convertible Notes and issued amended and restated convertible promissory notes to certain of the lenders in replacement of, but not in payment of, the remainders of the 2022 Convertible Notes (see Note 6). As part of these amendments, among other changes, such lenders agreed to extend the maturity date of the outstanding principal and accrued but unpaid interest on the 2022 Convertible Notes to December 31, 2024 and remove the Floor Valuation. Following these amendments, $20,899 in aggregate principal under the 2022 Convertible Notes will remain outstanding and accrue interest at the rate of 10% per year until they are paid or converted in full. In connection with entering into these amendments, the Company issued to such lenders warrants to purchase shares of the Company's common stock with par value of $0.00001 per share. The warrants are immediately exercisable for a variable number of shares based on the principal amount of the 2022 Convertible Notes, as amended, and an exercise price, at the holders' choice, of (a) $8.3843 per share, (b) the lowest original issue price of shares of Preferred Stock of the Company issued in the Company's next bona fide private preferred equity financing round, (c) in the event of any convertible note or similar convertible security financing, the conversion price contemplated by such convertible security, or (d) in the event of an IPO, the per share offering price to the public in such IPO. The warrants have a contractual term of ten years from issuance.

Fractyl Health, Inc.
Consolidated Balance Sheets (Unaudited)
(in thousands, except for share and per share information)

	September 30, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	**$ 44,500**	$ 49,269
Accounts Receivable	**24**	—
Inventory	**76**	—
Restricted cash, current	**315**	—
Prepaid expenses and other current assets	**1,896**	2,360
Total current assets	**46,811**	51,629
Restricted cash, long-term	**4,255**	4,255
Property and equipment, net	**322**	326
Right-of-use lease assets	**615**	1,321
Other long-term assets	**4,779**	3,425
Total assets	**$ 56,782**	$ 60,956
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	**$ 746**	$ 980
Accrued expenses and other current liabilities	**6,334**	5,081
Lease liabilities, current	**768**	1,250
Warrant liabilities, current	**549**	—
Total current liabilities	**8,397**	7,311
Notes payable, long-term	**54,743**	17,760
Lease liabilities, long-term	**—**	465
Warrant liabilities, long-term	**13,487**	407
Other long-term liabilities	**—**	2
Total liabilities	**76,627**	25,945
Commitments and contingencies		
Convertible preferred stock (Series A, B, C-1, C-2, D, E and F), $0.00001 par value; 78,112,639 shares authorized at September 30, 2023 and December 31, 2022; 77,994,156 shares issued and outstanding at September 30, 2023 and December 31, 2022; aggregate liquidation preference of $374,750 and $361,901 at September 30, 2023 and December 31, 2022, respectively	**287,330**	287,330
Stockholders' deficit:		
Common stock, $0.00001 par value; 107,000,000 shares authorized at September 30, 2023 and December 31, 2022; 4,496,210 and 4,410,945 shares issued and outstanding at September 30, 2023 and December 31, 2022, respectively	**—**	—
Additional paid-in capital	**20,261**	17,206
Accumulated deficit	**(327,436)**	(269,525)
Total stockholders' deficit	**(307,175)**	(252,319)
Total liabilities, convertible preferred stock and stockholders' deficit	**$ 56,782**	$ 60,956

See accompanying notes to consolidated financial statements (unaudited).

Fractyl Health, Inc.
Consolidated Statements of Operations and Comprehensive Loss (Unaudited)
(in thousands, except for share and per share information)

	Nine Months Ended September 30,	
	2023	2022
Revenue	$ 113	$ —
Cost of goods sold	75	—
Gross profit	38	—
Operating expenses:		
Research and development	27,872	25,737
Selling, general and administrative	10,021	12,235
Total operating expenses	37,893	37,972
Loss from operations	(37,855)	(37,972)
Other income (expense), net:		
Interest income, net	797	386
Loss from debt extinguishment	—	(313)
Change in fair value of notes payable	(19,676)	2,185
Change in fair value of warrant liabilities	(1,161)	122
Other expense, net	(16)	(3)
Total other income (expense), net	(20,056)	2,377
Net loss and comprehensive loss	(57,911)	(35,595)
Accretion of dividends on convertible preferred stock	(12,850)	(12,850)
Net loss attributable to common stockholders	$ (70,761)	$ (48,445)
Net loss per share attributable to common stockholders-basic and diluted	$ (15.90)	$ (11.47)
Weighted-average number of common shares outstanding-basic and diluted	4,451,343	4,224,493

See accompanying notes to consolidated financial statements (unaudited).

Fractyl Health, Inc.
Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit (Unaudited)
(in thousands, except for share information)

	Series A, B, C-1, C-2, D, E and F Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount			
Balance at December 31, 2022	77,994,156	$ 287,330	4,410,945	$ —	$ 17,206	$ (269,525)	$ (252,319)
Exercise of common stock options	—	—	85,265	—	35	—	35
Stock-based compensation expense	—	—	—	—	3,020	—	3,020
Net loss	—	—	—	—	—	(57,911)	(57,911)
Balance at September 30, 2023	**77,994,156**	**$ 287,330**	**4,496,210**	**$ —**	**$ 20,261**	**$ (327,436)**	**$ (307,175)**

	Series A, B, C-1, C-2, D, E and F Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount			
Balance at December 31, 2021	77,994,156	$ 287,330	4,049,782	$ —	$ 13,747	$ (223,072)	$ (209,325)
Exercise of common stock options	—	—	361,163	—	321	—	321
Stock-based compensation expense	—	—	—	—	2,231	—	2,231
Net loss	—	—	—	—	—	(35,595)	(35,595)
Balance at September 30, 2022	77,994,156	287,330	4,410,945	—	16,299	(258,667)	(242,368)

See accompanying notes to consolidated financial statements (unaudited).

Fractyl Health, Inc.
Consolidated Statements of Cash Flows (Unaudited)
(in thousands)

	Nine Months Ended September 30,	
	2023	**2022**
Cash flows from operating activities:		
Net loss	**$ (57,911)**	$ (35,595)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	**248**	371
Loss on disposal of fixed assets	**—**	1
Loss on debt extinguishment	**—**	313
Stock-based compensation expense	**3,020**	2,231
Change in fair value of warrant liabilities	**1,161**	(122)
Change in fair value of notes payable, non-cash	**19,526**	(2,185)
Issuance costs related to notes payable	**1,934**	—
Changes in operating assets and liabilities:		
Accounts Receivable	**(24)**	—
Inventory	**(76)**	—
Prepaid expenses and other current assets	**464**	(160)
Lease assets and lease liabilities, net	**(241)**	(273)
Accounts payable	**(504)**	(375)
Accrued expenses and other current liabilities	**176**	334
Other long term assets and liabilities	**3**	1,750
Net cash used in operating activities	**(32,224)**	(33,710)
Cash flows from investing activities:		
Purchases of property and equipment	**(223)**	(56)
Net cash used in investing activities	**(223)**	(56)
Cash flows from financing activities:		
Proceeds from issuance of notes payable, net	**28,432**	20,075
Proceeds from exercise of stock options	**35**	321
Payments related to debt issuance costs	**(327)**	—
Payments related to offering costs	**(66)**	—
Principal payments on capital lease obligations	**(6)**	(6)
Repayment of notes payable	**(75)**	(16,037)
Net cash provided by financing activities	**27,993**	4,353
Net increase in cash, cash equivalents and restricted cash	**(4,454)**	(29,413)
Cash, cash equivalents and restricted cash at beginning of period	**53,524**	95,473
Cash, cash equivalents and restricted cash at end of period	**$ 49,070**	$ 66,060
Supplemental disclosure of cash flow information:		
Interest paid	**$ 150**	$ 6
Non-cash investing and financing activities:		
Remeasurement of right-of-use asset on lease modification	**$ —**	$ 1,352
Purchases of property and equipment included in accounts payable or accrued expenses	$ 21	$ —
Debt issuance costs included in accrued expenses	$ 39	$ —
Deferred offering costs included in accounts payable or accrued expenses	$ 1,287	$ —
Fair value of warrant liabilities recognized in connection with amendment of convertible notes payable	$ 9,876	$ —
Fair value of warrant liabilities recognized in connection with issuance of notes payable	$ 2,592	$ —

See accompanying notes to consolidated financial statements (unaudited).

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited)
(in thousands, except share and per share information)

1. Nature of the Business and Basis of Presentation

Fractyl Health, Inc. (the "Company") was incorporated on August 30, 2010 under the name MedCatalyst, Inc. The Company subsequently changed its name to Fractyl Laboratories Inc. on January 10, 2012 and subsequently to Fractyl Health, Inc. on June 9, 2021. The Company is a metabolic therapeutics company focused on pioneering new approaches to the treatment of metabolic diseases, including type 2 diabetes ("T2D") and obesity. The Company's goal is to transform metabolic disease treatment from chronic symptomatic management to durable disease-modifying therapies that target the organ-level root causes of T2D and obesity. The Revita DMR System ("Revita"), the Company's lead product candidate, is an outpatient procedural therapy designed to durably modify duodenal dysfunction, a major pathologic consequence of a high fat and high sugar diet, which can initiate T2D and obesity in humans. Led by the Company's ongoing Revitalize-1 pivotal study, the Company has initiated a broad clinical program designed to evaluate Revita in multiple clinical studies across a range of patient populations from prediabetes and obesity to advanced T2D patients on long-acting insulin. In addition, the Company is developing Rejuva, a novel, locally administered, adeno-associated virus delivered pancreatic gene therapy platform. Rejuva is designed to enable long-term remission of T2D and obesity by durably altering metabolic hormone function in the pancreatic islet cells of patients. The Company believes Revita and Rejuva, if approved, have the potential to revolutionize treatment across the spectrum of T2D and obesity, align the clinical and economic interest of key stakeholders around the long-term regression of metabolic disease, and, at their fullest potential, significantly reduce the burden of metabolic disease globally.

The accompanying financial statements have been prepared in accordance with United States generally accepted accounting principles ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to GAAP as found in the Accounting Standards Codification ("ASC") and Accounting Standards Updates ("ASUs"), promulgated by the Financial Accounting Standards Board ("FASB").

Liquidity

The Company has financed its operations to date primarily through sales of its convertible preferred stock and debt financing. As of September 30, 2023, the Company had cash and cash equivalents totaling $44,500 and net working capital of $38,414. The Company has a history of operating losses and had an accumulated deficit of $327,436 as of September 30, 2023.

Under ASC 205-40, *Going Concern*, management must evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern within one year after the date that the financial statements are issued. This evaluation initially does not take into consideration the potential mitigating effect of management's plans that have not been fully implemented as of the date the financial statements are issued. When substantial doubt exists, management evaluates whether the mitigating effect of its plans sufficiently alleviates substantial doubt about the Company's ability to continue as a going concern. The mitigating effect of management's plans, however, is only considered if both (1) it is probable that the plans will be effectively implemented within one year after the date that the financial statements are issued, and (2) it is probable that the plans, when implemented, will mitigate the relevant conditions or events that raise substantial doubt about the entity's ability to continue as a going concern within one year after the date that the financial statements are issued. Generally, to be considered probable of being effectively implemented, the plans must have been approved by the Company's Board of Directors ("Board") before the date that the financial statements are issued.

The future success of the Company is dependent on its ability to develop its product candidates and ultimately upon its ability to attain profitable operations. The Company is subject to a number of risks similar to

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

other early-stage life science companies, including, but not limited to, successful discovery and development of its product candidates, raising additional capital with favorable terms, development by its competitors of new technological innovations, protection of proprietary technology and market acceptance of the Company's products. The successful discovery and development of product candidates requires substantial working capital which may not be available to the Company on favorable terms or not at all.

The Company has generated insignificant revenue from product sales since its limited pilot commercial launch in Germany in the first quarter of 2023. The Company does not anticipate generating revenue from product sales in the United States unless and until it successfully completes clinical development and obtains marketing approvals from one or more of the product candidates. As a result, management expects continuing operating losses in the future. As of September 30, 2023, the Company had available cash and cash equivalents of $44,500, which is not sufficient to fund the Company's current operating plan for at least twelve months after the date the interim consolidated financial statements are issued. The Company expects to seek additional funds through equity or debt financings or through additional collaboration, licensing transactions or other sources. The Company may be unable to obtain equity or debt financings or enter into additional collaboration or licensing transactions and, if necessary, the Company will be required to implement cost reduction strategies which could curtail or delay its current clinical activities. As a result, substantial doubt exists about the Company's ability to continue as a going concern. The accompanying interim consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and satisfaction of liabilities in the ordinary course of business. The interim consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might result from the outcome of this uncertainty.

2. Significant Accounting Policies

Basis of Presentation

The accompanying unaudited consolidated financial statements have been prepared by the Company in accordance with accounting principles generally accepted in the United States, or GAAP, for interim financial reporting and as required by Regulation S-X, Rule 10-01. The consolidated financial statements have been prepared in accordance with GAAP and include the accounts of the Company and its wholly owned subsidiary. All intercompany balances and transactions have been eliminated. These interim financial statements, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair presentation of the Company's financial position and results of operations for the nine-month interim periods ended September 30, 2023 and 2022. The results of operations for the interim periods are not necessarily indicative of results to be expected for the year ending December 31, 2023, any other interim periods, or any future year or period.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting periods. Significant estimates relied upon in preparing these consolidated financial statements include, but are not limited to, the fair value of common stock, the fair value of preferred and common stock warrants, the fair value of notes payable, the fair value of stock-based awards, the incremental borrowing rate for lease accounting and the accrual of research and development expenses. Estimates are periodically reviewed in light of changes in circumstances, facts and experience. Actual results could differ materially from those estimates.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

Cash and Cash Equivalents

The Company considers all short-term, highly liquid investments with original maturities of 90 days or less at the date of purchase to be cash equivalents. Cash equivalents, which consist of money market funds, are stated at fair value.

Restricted Cash

The Company's restricted cash primarily represented cash held in separate collateral bank accounts in conjunction with the maintenance of letters of credit required under the Company's facility leases (See Note 7). The letters of credit were issued for an original effective period of 12 months with automatic annual renewal until the expiration date.

Concentration of Credit Risk

The Company's financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash and cash equivalents. As of September 30, 2023, substantially all of the Company's cash deposits are maintained at large, creditworthy financial institutions. The Company's deposits at times may significantly exceed federally insured limits. The Company has not experienced any losses related to its cash and does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

Segment information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision-maker in deciding how to allocate resources and assess performance. The Company and the Company's chief operating decision-maker, the Company's chief executive officer, views the Company's operations and manages its business as a single operating segment. Substantially all of the Company's long-lived assets are held in the United States.

Revenue

The Company records revenue under the guidance of ASC 606, *Revenue from Contracts with Customers (Topic 606)* which requires a company to recognize revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those good or services. During the nine months ended September 30, 2023, the Company has recognized an insignificant amount of revenue from the sales and leasing of Revita in Germany. During the nine months ended September 30, 2022, the Company did not generate any revenues.

The Company determines revenue recognition through the following steps:

- Identification of the contract, or contracts, with a customer
- Identification of the performance obligations in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligations in the contract
- Recognition of revenue when, or as, the Company satisfies a performance obligation

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

Accounts Receivable

The Company monitors the financial performance and creditworthiness of its customers so that it can properly assess and respond to changes in customer credit profiles. The Company reserves against accounts receivables for estimated losses that may arise from a customer's inability to pay, and any amounts determined to be uncollectible are written off against the reserve when it is probable that the receivable will not be collected. The was no reserve amount for estimated losses as of September 30, 2023.

Inventory and Cost of Goods Sold

Inventories are stated at the lower of cost or estimated net realizable value with cost based on the first-in first-out method. Inventory that can be used in either the production of clinical or commercial products is expensed as research and development costs when identified for use in clinical trials. Cost of goods sold is based on the sale of inventory used in commercial products.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. Depreciation and amortization expense is recognized using the straight-line method over the following estimated useful lives:

Asset Category	Estimated Useful Life
Computer and office equipment	3 to 5 years
Laboratory and manufacturing equipment	3 years
Website development costs	3 years
Leasehold improvements	Shorter of remaining lease term or the estimated useful life of 5 to 8 years

Costs of major additions and betterments are capitalized and amortized on a straight-line basis over the shorter of the remaining lease term or the estimated useful life of the asset. Upon retirement or sale, the cost of assets disposed of and the related accumulated amortization are removed from the accounts and any resulting gain or loss is included in the determination of net income or loss. Repairs and maintenance costs are expensed as incurred.

Impairment of Long-Lived Assets

Long-lived assets consist primarily of property and equipment and right-of-use operating lease assets. Long-lived assets to be held and used are tested for recoverability whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. Factors that the Company considers in deciding when to perform an impairment review include significant underperformance of the business in relation to expectations, significant negative industry or economic trends and significant changes or planned changes in the use of the assets. If an impairment review is performed to evaluate a long-lived asset group for recoverability, the Company compares forecasts of undiscounted cash flows expected to result from the use and eventual disposition of the long-lived asset group to its carrying value. An impairment loss would be recognized when estimated undiscounted future cash flows expected to result from the use of an asset group are less than its carrying amount. The impairment loss would be based on the excess of the carrying value of the impaired asset group over its fair value, determined based on discounted cash flows. To date, the Company has not recorded any impairment losses on long-lived assets.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

Deferred Public Offering Costs

Deferred public offering costs, which primarily consist of direct, incremental legal and accounting fees relating to the planned Initial Public Offering ("IPO"), are capitalized within other long-term assets. The deferred public offering costs will be offset against IPO proceeds upon the consummation of the offering. The Company had incurred $2,195 in IPO costs as of December 31, 2021. In 2022, the Company delayed its IPO plan due to adverse market conditions. The delay was considered an aborted IPO and associated deferred offering costs of $2,704 were expensed within selling, general and administrative expenses on the consolidated statements of operations and comprehensive loss during the nine months ended September 30, 2022. In the third quarter of 2023, the Company re-initiated its effort for a planned IPO and had incurred offering-related costs of $1,353 as of September 30, 2023, which were capitalized as deferred public offering costs within other long-term assets.

Other Long-term Assets

At September 30, 2023, other long-term assets consisted of vendor deposits of $2,522, deferred public offering costs of $1,353 and implementation costs incurred in a cloud computing arrangement that is a service contract of $904. At December 31, 2022, other long-term assets consisted of vendor deposits of $2,562 and implementation costs incurred in a cloud computing arrangement that is a service contract of $863.

Fair Value Measurements

Certain assets and liabilities of the Company are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

The Company's cash equivalents, notes payable and warrant liabilities are carried at fair value, determined according to the fair value hierarchy above (See Note 3). The carrying values of the Company's accounts payable and accrued expenses approximate their fair value due to the short-term nature of these liabilities.

Leases

The Company applies the provisions of ASC 842, *Leases*, ("ASC 842") to account for its leases.

At the inception of an arrangement, the Company determines whether the arrangement is or contains a lease based on the unique facts and circumstances present in the arrangement. Leases with a term greater than one year are recognized on the balance sheet as right-of-use assets and short-term and long-term lease liabilities, as applicable. The Company's finance lease is immaterial.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

At the lease commencement date, the Company recognizes a right-of-use asset and a lease liability for all leases, except short-term leases with an original term of 12 months or less. The Company typically only includes an initial lease term in its assessment of a lease arrangement. Options to renew a lease are not included in the Company's assessment unless there is a reasonable certainty that the Company will renew. The operating lease liabilities and their corresponding right-of-use assets are initially recorded based on the present value of fixed lease payments over the expected lease term. Certain adjustments to the right-of-use asset may be required for items such as incentives received. The interest rate implicit in the lease contracts is typically not readily determinable. As a result, the Company utilizes its incremental borrowing rate to discount lease payments, which reflects the fixed rate at which the Company could borrow on a collateralized basis the amount of the lease payments in the same currency, for a similar term, in a similar economic environment. The Company recognizes operating lease expense on a straight-line basis over the lease term.

Assumptions made by the Company at the commencement date are re-evaluated upon occurrence of certain events, including lease modification. A lease modification results in a separate contract when the modification grants the lessee an additional right of use not included in the original lease and when lease payments increase commensurate with the standalone price for the additional right of use. When a lease modification results in a separate contract, it is accounted for in the same manner as a new lease.

See Note 7—"Leases" and Note 9—"Commitments and Contingencies" for additional information about the Company's leases**.**

Research and Development Costs

Research and development costs are expensed as incurred. Research and development expenses include salaries, stock-based compensation and employee-related benefits, product development, clinical trial and related clinical manufacturing costs, allocation of facility-related expenses, overhead expenses and other outside expenses. Nonrefundable prepayments for goods or services that will be used or rendered for future research and development activities are deferred and capitalized. Such amounts are recognized as an expense as the goods are delivered or the related services are performed, or until it is no longer expected that the goods will be delivered or the services rendered.

Research Contract Costs and Accruals

The Company has entered into various research and development contracts with companies and individuals globally. These agreements are generally cancelable, and related payments are recorded as research and development expenses as incurred. The Company records accruals for estimated ongoing research and development costs. When evaluating the adequacy of the accrued liabilities, the Company analyzes progress of the studies or projects, including the phase or completion of events, invoices received and contracted costs. Judgments and estimates are made in determining the accrued balance at the end of any reporting period. Actual results could differ from the Company's estimates. The Company's historical accrual estimates have not been materially different from the actual costs.

Patent Costs

All patent-related costs incurred in connection with filing and prosecuting patent applications are recorded as general and administrative expenses as incurred, as recoverability of such expenditures is uncertain.

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Notes Payable

The Company elected to apply the fair value option to its notes payable in accordance with ASC 825, *Financial Instruments* ("ASC 825"). Accordingly, the notes payable are remeasured at the end of each reporting period with changes in fair value recognized as a component of other income (expense) in the consolidated statements of operations and comprehensive loss. Changes in fair value resulting from changes in instrument-specific credit risk, if any, will be recognized separately in other comprehensive income. The primary reason for electing the fair value option was to address simplification and cost-benefit considerations that result from accounting for hybrid financial instruments at fair value in their entirety versus bifurcation of the embedded derivatives from the debt hosts.

The fair values of the notes payable are determined using valuation models that incorporate assumptions and estimates. The Company assesses these assumptions and estimates at each financial reporting period as additional information impacting the assumptions is obtained. Assumptions in the models include but are not limited to equity value, volatility, time to conversion event, risk-free rate and scenario weightings. The fair value measurements of the notes payable are based on significant inputs that are not observable in the market and represent a Level 3 measurement. See Note 6.

Warrant Liabilities

The Company classifies warrants to purchase shares of its convertible preferred stock as liabilities on its consolidated balance sheets as the underlying shares are contingently redeemable. In addition, the Company classifies certain warrants to purchase shares of its common stock as liabilities on its consolidated balance sheets as such warrants embody an obligation to issue a variable number of shares for which the monetary value is predominantly fixed. These warrants were initially recorded at fair value on the grant date, and are subsequently remeasured to fair value at the end of each reporting period with changes in fair value recognized as a component of other income (expense) in the consolidated statements of operations and comprehensive loss. The Company will continue to adjust the liabilities until the earlier of exercise or expiration of the warrant.

The fair values of these warrant liabilities are determined using either a Black-Scholes option-pricing model or a Monte Carlo simulation model, depending on the nature of the warrants. The valuation model used incorporates assumptions and estimates, which the Company assesses at each financial reporting period as additional information impacting the assumptions is obtained. Estimates and assumptions impacting the fair value measurement include the fair value per share of the underlying shares, the remaining contractual term of the warrants, risk-free interest rate, expected dividend yield and expected volatility of the price of the underlying shares. The Company determines the fair value per share of the underlying shares by taking into consideration the most recent sales of its convertible preferred stock, results obtained from third-party valuations and additional factors that are deemed relevant. The Company historically has been a private company and lacks company-specific historical and implied volatility information of its stock. Therefore, it estimates its expected stock volatility based on the historical volatility of publicly traded peer companies for a term equal to the remaining contractual term of the warrants The risk-free interest rate is determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the remaining contractual term of the warrant. Expected dividend yield for the convertible preferred stock warrants is determined considering that the underlying shares are entitled to dividends of 6.0% per year, whether or not declared. Expected dividend yield for the common stock warrants is based on the fact that the Company has never paid cash dividends on common stock and does not expect to pay any cash dividends on common stock in the foreseeable future.

This fair value measurement of the warrant liabilities is based on significant inputs that are not observable in the market and represent a Level 3 measurement. See Note 8.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
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Stock-Based Compensation

The Company measures all stock-based awards based on their fair value on the date of the grant. Those awards typically have a graded vesting schedule and compensation expense for awards with only service conditions are recognized on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. Compensation costs recognized for performance-based awards reflect the number of awards that are expected to vest during the requisite service period, and are adjusted to reflect those awards that ultimately vest upon final determination of the performance conditions achieved. Recognition of compensation costs related to performance-based awards with performance condition based on occurrence of certain events is deferred until these events are probable of occurring.

The Company classifies stock-based compensation expense in its consolidated statements of operations and comprehensive loss in the same manner in which the award recipient's payroll costs are classified or in which the award recipient's service payments are classified.

The Company uses the Black-Scholes option pricing model, which incorporates assumptions and estimates, to measure the fair value of its option awards on the date of grant of each stock option award. The Company determines the fair value per share of the underlying common stock by taking into consideration the results obtained from third-party valuations and additional factors that are deemed relevant. The Company historically has been a private company and lacks company-specific historical and implied volatility information. Therefore, the Company estimates its expected stock volatility based on an analysis of reported data for a publicly traded peer group of companies that granted options with substantially similar terms and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded stock price. The expected term assumption for employee grants is determined by using the "simplified" method for awards that qualify as "plain-vanilla" options. The risk-free interest rate is based on the rate of the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that the Company has never paid cash dividends on common stock and does not expect to pay any cash dividends in the foreseeable future. Forfeitures are accounted for as they occur.

Income Taxes

The Company accounts for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in the consolidated financial statements or in the Company's tax returns. Deferred tax assets and liabilities are determined based on the difference between the financial statement carrying amounts and the tax basis of existing assets and liabilities and for loss and credit carryforwards using enacted tax rates in effect in the years in which the differences are expected to reverse. Changes in deferred tax assets and liabilities are recorded in the provision for income taxes. The Company assesses the likelihood that its deferred tax assets will be recovered from future taxable income and, to the extent it believes, based upon the weight of available evidence, that it is more likely than not that all or a portion of the deferred tax assets will not be realized, a valuation allowance is established through a charge to income tax expense. Potential for recovery of deferred tax assets is evaluated by estimating the future taxable profits expected and considering prudent and feasible tax planning strategies.

The Company accounts for uncertainty in income taxes recognized in the financial statements by applying a two-step process to determine the amount of tax benefit to be recognized. First, the tax position must be evaluated to determine the likelihood that it will be sustained upon external examination by the taxing authorities. If the tax position is deemed more-likely-than-not to be sustained, the tax position is then assessed to

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Notes to Consolidated Financial Statements (Unaudited) (continued)
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determine the amount of benefit to recognize in the financial statements. The amount of the benefit that may be recognized is the largest amount that has a greater than 50% likelihood of being realized upon ultimate settlement. The provision for income taxes includes the effects of any resulting tax reserves, or unrecognized tax benefits, that are considered appropriate as well as the related net interest and penalties.

Convertible Preferred Stock

The Company records its convertible preferred stock at fair value on the dates of issuance, net of issuance costs. All shares of convertible preferred stock have been presented outside of stockholders' deficit as the redemption of such shares is outside the Company's control (See Note 10). The Company does not adjust the carrying values of the convertible preferred stock to the redemption value of such stock until such time as a redemption event is probable of occurring.

Comprehensive Loss

Comprehensive loss is comprised of two components: net loss and other comprehensive loss, which includes other changes in stockholders' deficit that result from transactions and economic events other than those with stockholders. The Company had no items qualifying as other comprehensive loss; accordingly, comprehensive loss equaled total net loss for each of the nine months ended September 30, 2023 and 2022.

Net Loss Per Share

Net loss per share attributable to common stockholders is calculated using the two-class method, which is an earnings allocation formula that determines net loss per share for the holders of the Company's common shares and participating securities. The Company's Series A, Series B, Series C-1, Series C-2, Series D, Series E, and Series F convertible preferred stock contain participating rights in any dividend paid by the Company and are therefore participating securities. Net loss attributable to common stockholders and participating securities is allocated to each share on an as-converted basis as if all of the earnings for the period had been distributed. However, the participating securities do not include a contractual obligation to share in the losses of the Company and were not included in the calculation of net loss per share in the periods that had a net loss.

Basic net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted average number of common shares outstanding during the period. Diluted net loss per share is computed using the more dilutive of (a) the two-class method or (b) the if-converted method and treasury stock method, as applicable. In periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders since dilutive common shares are not assumed to have been issued if their effect is anti-dilutive. Diluted net loss per share is equivalent to basic net loss per share for the years presented herein because common stock equivalent shares from the Series A, Series B, Series C-1, Series C-2, Series D, Series E, and Series F convertible preferred stock, outstanding stock options and restricted stock units and outstanding warrants to purchase common stock and convertible preferred stock (see Note 15) were anti-dilutive.

Emerging Growth Company Status

The Company is an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or JOBS Act, and may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. The Company may take advantage of these exemptions until the Company is no longer an "emerging growth company." Section 107 of the JOBS Act

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provides that an "emerging growth company" can take advantage of the extended transition period afforded by the JOBS Act for the implementation of new or revised accounting standards. The Company has elected to use the extended transition period for complying with new or revised accounting standards and as a result of this election, its consolidated financial statements may not be comparable to companies that comply with public company effective dates. The Company may take advantage of these exemptions up until the last day of the fiscal year following the fifth anniversary of an offering or such earlier time that it is no longer an "emerging growth company".

Recently Adopted Accounting Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)—Measurement of Credit Losses on Financial Instruments*, which has been subsequently amended by ASU No. 2018-19, ASU No. 2019-04, ASU No. 2019-05, ASU No. 2019-10, ASU No. 2019-11 and ASU No. 2021-03 ("ASU 2016-13"). The provisions of ASU 2016-13 modify the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology and require a consideration of a broader range of reasonable and supportable information to inform credit loss estimates. ASU 2016-13 was effective for the Company on January 1, 2023 and had no material impact on the Company's Consolidated Financial Statements and did not record any effects through retained earnings.

Recently Issued Accounting Pronouncements

On October 9, 2023, the FASB issued ASU 2023-06 *Disclosure Improvements: Codification Amendments in Response to the SEC's Disclosure Update and Simplification Initiative ("ASU 2023-06")*, which modifies certain disclosure and presentation requirements of a variety of Topics in the Codification and is intended to both clarify or improve such requirements and align the requirements with the SEC's regulations. The Company is in the process of evaluating the amendments provided in the Update and believes certain of the disclosure improvements may be applicable to the Company's interim or annual disclosures, for example, disclosures related to earnings-per-share computation for dilutive securities and preferred stock. The effective date for each amendment is the effective date of the removal of the related disclosure from Regulation S-X or Regulation S-K, with early adoption prohibited. The Company will apply the provisions prospectively as such provisions become effective, and does not expect ASU 2023-06 to have a material impact on the consolidated financial statements.

3. Fair Value Measurements

The following tables present information about the Company's financial assets and liabilities measured at fair value on a recurring basis and indicate the level of fair value hierarchy utilized to determine such fair values:

	Fair Value measurements as of September 30, 2023			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents—money market funds	$ 1	$ —	$ —	$ 1
	$ 1	$ —	$ —	$ 1
Liabilities:				
Warrant liabilities, current	$ —	$ —	$ 549	$ 549
Warrant liabilities, long-term	—	—	13,487	13,487
Notes payable, long-term	—	—	54,743	54,743
	$ —	$ —	$68,779	$68,779

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Notes to Consolidated Financial Statements (Unaudited) (continued)
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	Fair Value measurements as of December 31, 2022			
	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents—money market funds	$ 1	$ —	$ —	$ 1
	$ 1	$ —	$ —	$ 1
Liabilities:				
Warrant liabilities, long-term	$ —	$ —	$ 407	$ 407
Notes payable	—	—	17,760	17,760
	$ —	$ —	$18,167	$18,167

During the nine months ended September 30, 2023 and year ended December 31, 2022, there were no transfers between Level 1, Level 2 and Level 3.

See Note 6—"Notes Payable" for the discussion of the fair value methodology of the notes payable and a rollforward of the fair value. See Note 8—"Warrant Liabilities" for the discussion of the fair value methodology of the stock warrants and a rollforward of the fair value.

4. Property and Equipment, Net

Property and equipment, net consisted of the following:

	September 30, 2023	December 31, 2022
Computer and office equipment	**$ 844**	$ 844
Laboratory and manufacturing equipment	**605**	521
Website development costs	**59**	40
Leasehold improvements	**3,607**	3,466
	5,115	4,871
Less: Accumulated depreciation	**(4,793)**	(4,545)
	$ 322	$ 326

Depreciation expense for the nine months ended September 30, 2023 and 2022 was $248 and $371, respectively.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

	September 30, 2023	December 31, 2022
Payroll and payroll-related expenses	**$ 3,223**	$ 2,760
External research and development services	**1,302**	1,519
Professional fees and consulting services	**1,761**	766
Other current liabilities	**48**	36
	$ 6,334	$ 5,081

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Notes to Consolidated Financial Statements (Unaudited) (continued)
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6. Notes Payable

Notes payable, long-term consisted of the following:

	September 30, 2023	December 31, 2022
2019 Note	**$ —**	$ —
2022 Convertible Notes	**27,225**	17,760
2023 Notes	**27,518**	—
	$ 54,743	$ 17,760

2019 Note

In February 2019, the Company entered into a loan and security agreement (the "2019 Note") with a lender that provided for borrowings of up to $15,000, all of which were drawn down during 2019. The outstanding balances under the 2019 Note bear interest at a floating annual rate that equals the greater of 1.5% above the Wall Street Journal prime rate or 6.75%. The 2019 Note provides for certain prepayment premiums should the Company make early payments of any principal balances prior to the maturity date. On the date that the 2019 Note is paid in full or becomes due and payable, the Company is required to make a payment (the "Final Payment"), in addition to the regular monthly payments of principal plus accrued interest, equal to 6% of the original principal amount.

In connection with entering into the 2019 Note, the Company issued to the lender and an affiliated investor warrants to purchase up to an aggregate of 257,380 shares of the Company's common stock with par value of $0.00001 per share, at a weighted average exercise price of $1.55 per share. The fair value of the warrants at issuance was $285 and was recorded as an equity on the consolidated balance sheet. The warrants expire ten years from the date of issuance. They were not exercised from their inception through September 30, 2023.

In 2020 and 2021, the Company entered into two amendments to the 2019 Note to revise certain interest-only repayment terms. In connection with entering into the first amendment, the Company issued to the lender and an affiliated investor, warrants to purchase up to an aggregate of 89,452 shares of the Company's common stock, par value $0.00001 per share, at an exercise price of $1.81 per share. The fair value of the warrants at issuance was $105 and was recorded as an equity on the consolidated balance sheet. The warrants expire ten years from the date of issuance. They were not exercised from their inception through September 30, 2023.

On January 3, 2022, the Company fully paid off the 2019 Note by making a lump-sum payment to the lender for a total amount of $16,130, which consisted of the outstanding principal balance of $15,000, the Final Payment of $900, the prepayment premium of $137 and accrued interest of $93. A loss from debt extinguishment of $313 was recognized as other expense in the consolidated statements of operations and comprehensive loss during the nine months ended September 30, 2022 as a result of the early payoff of the 2019 Note.

2022 Convertible Notes

On January 11, 2022, the Company entered into a financing arrangement with certain lenders (the "2022 Lenders") in which the Company issued convertible promissory notes in exchange for an aggregate principal amount of $20,075 (the "2022 Convertible Notes"). Under the original terms of the 2022 Convertible Notes, interest accrued on the unpaid principal balance of the 2022 Convertible Notes at the rate of 3% per year until paid or converted in full. Subject to the conversion provisions set forth below, all principal and accrued interest on the 2022 Convertible Notes was to be due and payable on July 11, 2023 (the "Original Maturity Date").

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Notes to Consolidated Financial Statements (Unaudited) (continued)
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Effective upon the closing of an equity financing event, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes will automatically be converted into shares of the same class and series of capital stock of the Company issued to other investors in the financing event at a conversion price equal to (i) in the event of an IPO, 80% of the price per share of the public company securities paid by other investors in the IPO; or (ii) in the event of a non-IPO, 80% of the opening price on the applicable stock exchange on the closing date; or (iii) in the event of a private financing round, 80% of the price per share of the financing securities paid by other investors in the financing round. In no event should the conversion price be a) less than the amount equal to $875,000 divided by our fully diluted capitalization as of immediately prior to the closing of the financing event (the "Floor Valuation"); or (b) more than an amount equal to $1,100,000 divided by the Company's fully diluted capitalization as of immediately prior to the closing of the financing event (the "Valuation Cap").

In the event of a Change of Control of the Company, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes will, at the option of the 2022 Lenders, (1) be repaid in cash as of the closing of such Change of Control; or (2) be converted into common stock of the Company at a conversion price equal to 80% of the fair market value of the Company's common stock as determined in good faith by the Company's Board of Directors, provided that, if the successor company is a publicly traded issuer, the conversion price will be determined by a volume-weighted average price per share of the successor company's stock on the applicable stock exchange for the five trading days prior to the Change of Control; and provided further that, in the event stockholders are to receive any non-cash consideration pursuant to the Change of Control, the 2022 Lenders shall receive the same non-cash consideration, in the same proportion, and the value of such non-cash consideration received by the 2022 Lenders shall be determined in accordance with the agreement governing such Change of Control. In no event should the conversion price be less than the Floor Valuation or more than the Valuation Cap.

Under the original terms of the 2022 Convertible Notes, in the event the 2022 Convertible Notes was still outstanding on the Original Maturity Date, or from and after the date and during the continuation of an Event of Default, all of the outstanding principal plus accrued interest under the 2022 Convertible Notes was to be converted, at the option of the holders, into shares of the Company's Series F convertible preferred stock at a conversion price equal to the lesser of (a) $8.3843 per share or (b) the Valuation Cap.

The Company elected to apply the fair value option ("FVO") to the 2022 Convertible Notes in accordance with ASC 825. Accordingly, the 2022 Convertible Notes are marked to market at the end of each reporting period, with changes in fair value recognized as a component of other income (expense) in the consolidated statements of operations and comprehensive loss. The fair value was estimated using a Monte Carlo simulation model to calculate equity values at different points in time leading up to a conversion event. The Company assesses the assumptions and estimates used in the valuation model at each financial reporting period as additional information impacting the assumptions is obtained. Assumptions and estimates impacting the fair value measurement include the fair value per share of the underlying shares, the expected time to conversion events (IPO or non-IPO), risk-free interest rate, expected volatility of the price of the underlying shares and scenario weightings. The Company determines the fair value per share of the underlying shares by taking into consideration the most recent sales of its convertible preferred stock, results obtained from third-party valuations and additional factors that are deemed relevant. The Company historically has been a private company and lacks company-specific historical and implied volatility information of its stock. Therefore, it estimates its expected stock volatility based on the historical volatility of publicly traded peer companies for a term equal to the expected time to conversion events. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the expected time to conversion events. Scenario weightings are based on management's best estimate of the probabilities of the occurrence of each conversion event considered.

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On July 11, 2023 (the "reissuance date"), the Company paid $78 to settle in full the outstanding principal and accrued interest owed to one of the lenders under the 2022 Convertible Notes and issued amended and restated convertible promissory notes to certain of the lenders (the "Continuing 2022 Lenders") in replacement of, but not in payment of, the remainder of the 2022 Convertible Notes. As part of these amendments, among other changes, the Continuing 2022 Lenders agreed to extend the maturity date of the outstanding principal and accrued but unpaid interest on the 2022 Convertible Notes to December 31, 2024 and remove the Floor Valuation. Following these amendments, $20,899 in aggregate principal under the 2022 Convertible Notes remained outstanding and accrues interest at the rate of 10% per year until they are paid or converted in full. In connection with entering into these amendments, the Company issued to the Continuing 2022 Lenders warrants to purchase shares of the Company's common stock with par value of $0.00001 per share. The warrants were recorded as part of the warrant liabilities on the consolidated balance sheet. The fair value of the warrants was estimated using a Monte-Carlo simulation model. See Note 8.

The Company evaluated the amendments to the 2022 Convertible Notes that were not settled in full under the debt modification and extinguishment guidance and concluded that the amendments resulted in terms that were substantially different and therefore resulted in debt extinguishments. Because the Company elected to apply the FVO to the 2022 Convertible Notes, the net carrying value of the extinguished debt should be equal to its fair value at the reissuance date. As a result, no gain or loss on extinguishment was recognized at the reissuance date as the carrying value of the extinguished debt was remeasured to be equal to the fair value of the reissued debt, which represented a combination of the fair value of the notes payable reissued and the fair value of the associated warrants issued, at the reissuance date. The resulting changes in the fair value from the remeasurement was recognized as a component of other income (expense) in the consolidated statements of operations and comprehensive loss and the fair value of the warrants issued was reclassified to warrant liabilities immediately after the reissuance of the 2022 Notes. In addition, due to the proximity of the reissuance date to the last reporting date of June 30, 2023, the fair value of the 2022 Convertible Notes as of June 30, 2023 already considered the known and knowable terms of the subsequently amended convertible notes, as described above, along with warrants that were issued with the amended convertible notes.

This fair value measurement is based on significant inputs that are not observable in the market and represent a Level 3 measurement. The following table provides a rollforward of the fair value of the 2022 Convertible Notes:

	Fair Value
Balance as of December 31, 2022	$17,760
Increase in fair value	18,689
Partial repayment of notes	(78)
Balance as of reissuance date of July 11, 2023	$36,371
Fair value of warrants issued in connection with the reissuance of 2022 Convertible Notes	(9,876)
Increase in fair value	730
Balance as of September 30, 2023	**$27,225**

Transaction costs incurred during the nine months ended September 30, 2022 related to the issuance of the 2022 Convertible Notes were immaterial and were expensed as part of the selling, general and administrative expenses as incurred. Accrued interest on the 2022 Convertible Notes is incorporated into the determination of the fair value of the 2022 Convertible Notes.

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There are no financial covenants associated with the 2022 Convertible Notes, however the 2022 Convertible Notes do contain customary events of default, subject to rights and remedies generally applicable to federal law or the laws of the State of Delaware. As of September 30, 2023, the Company was in compliance with the terms of the arrangement.

2023 Notes

On September 7, 2023, the Company entered into a credit agreement with certain lenders (the "2023 Lenders") that provides for term loans in an aggregate principal amount of $45,000 (the "Applicable Commitments") in two tranches (the "2023 Notes"). The first tranche with a principal amount of $30,000 was extended on September 7, 2023. The second tranche with a principal amount of $15,000 may be extended upon the Company's achievement of certain funding milestones as defined in the 2023 Notes, by July 31, 2024. The 2023 Notes also provide for a third tranche with an uncommitted principal amount of $20,000 that may be extended to the Company, subject to the lenders' prior written consent in their sole discretion.

The outstanding balances under the 2023 Notes bear interest at a floating annual rate equal to the greater of 5.5% above the Wall Street Journal prime rate or 13.25%. On and prior to September 30, 2024, 6.0% of the interest is payable in kind (the "PIK interest") and added to the outstanding principal amount of the loans. Beginning September 30, 2026, the Company is required to make principal payments in the amount of 1.5% of the aggregate principal amount outstanding, including accrued PIK interest, each month. The first principal payment date can be extended to September 30, 2027, at the Company's option, if certain financing milestones as defined in the 2023 Notes are achieved on or prior to September 30, 2026. In addition, upon any principal payment, the Company is required to make an additional payment to the 2023 Lenders a 6.0% fee (the "Exit Fee") over the principal and accrued PIK interest paid. The aggregate Exit Fee of the 2023 Notes should equal to 6.0% of the total Applicable Commitments of $45,000 plus all accrued PIK interest. All remaining outstanding principal balance, accrued interest and Exit Fee on the 2023 Notes shall be due and payable on the maturity date of September 7, 2028.

In connection with the issuance of the 2023 Notes, the Company issued to the 2023 Lenders warrants to purchase, at the holders' choice, shares of the Company's Series F convertible preferred stock, the most senior series of Preferred Stock of the Company that is then authorized, or the Company's common stock. The warrants were recorded as part of the warrant liabilities on the consolidated balance sheet. The fair value of the warrants was estimated using a Monte-Carlo simulation model. See Note 8.

The Company elected to apply the FVO to the 2023 Notes in accordance with ASC 825. The Company considers that the fair value of the notes and warrants at issuance equated to the $30,000 total proceeds of the 2023 Notes as the credit agreement of the 2023 Notes were entered into with the 2023 Lenders in an arm's-length transaction. Therefore, the balance of the 2023 Notes as of the issuance date of September 7, 2023 was estimated at the difference between the total proceeds of $30,000 and the estimated fair value of the warrants of $2,592.

This fair value measurement is based on significant inputs that are not observable in the market and represent a Level 3 measurement. The following table provides a rollforward of the fair value of the 2023 Notes:

	Fair Value
Fair value at issuance date of September 7, 2023	$27,408
Increase in fair value	257
Payment of interest	(147)
Balance as of September 30, 2023	**$27,518**

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Notes to Consolidated Financial Statements (Unaudited) (continued)
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Transaction costs incurred during the nine months ended September 30, 2023 related to the issuance of the 2023 Notes were approximately $1,934 and were expensed as part of the selling, general and administrative expenses as incurred. Accrued interest on the 2023 Notes is incorporated into the determination of the fair value of the 2023 Notes. Fair value of the 2023 Notes as of September 30, 2023 approximated the fair value as of issuance date of September 7, 2023. The increase in fair value represented interests accrued.

The 2023 Notes are subject to specific financial covenants, which include (i) a minimum liquidity covenant that requires the Company to maintain a minimum $10,000 balance in cash and/or certain permitted cash equivalent investments, subject to certain exceptions, and (ii) a financing milestone covenant requiring that (a) we have received proceeds from an equity financing or series of financings of at least $40,000 during the period commencing on September 7, 2023, or the Closing Date, and ending on or prior to February 15, 2024, and (b) we have received equity financing or series of financings of at least $100,000 (inclusive of such equity financing or series of financings in the preceding clause (a)) during the period commencing as of the Closing Date and prior to June 30, 2024. In addition, the 2023 Notes also contain customary events of default, subject to rights and remedies generally applicable to federal law or the laws of the State of Delaware. As of September 30, 2023, the Company was in compliance with the financial covenants and other terms of the arrangement.

7. Leases

Lexington Lease

In November 2015, the Company entered into a lease agreement for office and laboratory space in Lexington, Massachusetts with the lease term covering a seven-year period from May 1, 2016 through April 30, 2023 (the “Lexington Lease”). The Lexington facility includes 30,000 square feet of office and laboratory space and has been occupied by the Company since August 2016. The Lexington Lease includes a provision for a $3,000 tenant improvement allowance, which was funded by the lessor in 2016. The Lexington Lease does not contain any material residual value guarantees or material restrictive covenants. The Company is not involved in the construction or design of the additional underlying asset, aside from constructing leasehold improvements. The Company is obligated to pay its portion of real estate taxes and costs, including costs of operations, maintenance, repair, replacement, and management of the Lexington Lease.

The Company reports operating lease right-of-use assets in right-of-use lease assets and the current and non-current portions of its operating lease liabilities in lease liabilities, current and lease liabilities, long-term, respectively, on its Consolidated Balance Sheet. The discount rate used to calculate lease liabilities was the Company’s estimated incremental borrowing rate of 6.75%.

In June 2022, the Company extended the term of the Lexington Lease for twelve months commencing on May 1, 2023 and expiring on April 30, 2024. The extended term will expire on April 30, 2024 unless terminated earlier in accordance with the terms of the lease and the Company shall have no option to further extend the lease upon the expiration date. The total fixed lease payment during the extended term is $1,590.

The extension of the lease has resulted in a revision to the lease term, which has been accounted for as a modification in accordance with ASC 842. As a result of the lease modification, the Company has reassessed the lease liability and right-of-use asset related to the lease. The reassessment involves the remeasurement of the present value of future lease payments, considering the revised lease term and any changes in lease payments, including any adjustments due to changes in discount rate. The Company reassessed its incremental borrowing rate at the time of the lease modification to be 11.75%, which was used as the discount rate in the remeasurement of the lease liabilities. The lease extension resulted in an addition of the operating right-of-use asset and lease liability of $1,352 on the date of the modification.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

Burlington Lease

In August 2022, the Company entered into a lease agreement for office and laboratory space in Burlington, Massachusetts, encompassing a rentable area of 78,000 square feet (the "Burlington Lease"). The lease contains a total lease term of 128 months, which includes an initial eight-month period of free rent and a remaining lease term of 10 years, subject to total lease payments of $59,284. Additionally, the Burlington Lease incorporates a five-year renewal option exercisable at the Company's discretion.

The commencement of the Burlington Lease is contingent upon the substantial completion of the lessor's construction of the facility. As of September 30, 2023, the leased space was still undergoing construction and the Company had not yet taken control and possession. The lease has subsequently commenced on November 1, 2023 and the Company will recognize the right-of-use asset and lease liability associated with the Burlington Lease on its consolidated balance sheet in accordance with ASC 842, *Leases*.

The following table is a summary of the components of lease expenses for the nine months ended September 30, 2023 and 2022:

	Nine Months Ended September 30,	
	2023	2022
Operating lease cost	**$ 824**	$ 530
Short-term lease cost	**362**	82
Variable lease cost	**234**	167
Total lease cost	**$ 1,420**	$ 779

Supplemental cash flow information related to leases for the nine months ended September 30, 2023 and 2022 are as follows:

	Nine Months Ended September 30,	
	2023	2022
Operating cash flows paid for operating leases	**$ 1,427**	$ 914

The following table summarizes the maturity of lease liabilities under operating leases as of September 30, 2023:

Fiscal Period Ended September 30, 2023	
Remaining three months of fiscal 2023	$397
2024	398
Total future minimum lease payments	795
Less: Imputed interest	27
Total lease liabilities	$768

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
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8. Warrant Liabilities

2014 Warrant

In January 2014, the Company issued a fully vested warrant to purchase 118,483 shares of the Company's Series B convertible preferred stock (the "2014 Warrant") in connection with a loan and security agreement entered into in January 2014. The 2014 Warrant was immediately exercisable at an exercise price of $1.266 per share and has a contractual term of ten years from issuance. The fair value of the 2014 Warrant at issuance was $48 and was recorded as part of the warrant liabilities in the consolidated balance sheet. The 2014 Warrant was not exercised from its inception through September 30, 2023.

The Company remeasures the fair value of the 2014 Warrant at the end of each reporting period, with any adjustments being recorded as a component of other expense in the consolidated statements of operations and comprehensive loss. The fair value of the 2014 Warrant was determined using the Black-Scholes option-pricing model with the following assumptions:

	September 30, 2023	December 31, 2022
Risk-free interest rate	**5.4%**	4.7%
Expected term (in years)	**0.3**	1.1
Expected volatility	**49%**	51%
Expected Dividend yield	**6%**	6%
Fair value of Series B convertible preferred stock per share	**$5.99**	$4.93

This fair value measurement of the 2014 Warrant was based on significant inputs that are not observable in the market and represented a Level 3 measurement. The following table provides a rollforward of the fair value of the Company's warrant liability:

	Fair Value
Balance as of December 31, 2022	$407
Increase in fair value	142
Balance as of September 30, 2023	**$549**

July 2023 Warrants

In July 2023, the Company issued fully vested warrants to purchase shares of the Company's common stock in connection with the issuance of the amended and restated 2022 Convertible Notes (the "July 2023 Warrants"). The July 2023 Warrants were immediately exercisable for a variable number of shares based on the principal amount of the 2022 Convertible Notes, as amended, of $20,899, and an exercise price, at the holders' choice, of (a) $8.3843 per share, (b) the lowest original issue price of shares of Preferred Stock of the Company issued in the Company's next bona fide private preferred equity financing round, (c) in the event of any convertible note or similar convertible security financing, the conversion price contemplated by such convertible security, or (d) in the event of an IPO, the per share offering price to the public in such IPO. The July 2023 Warrants have a contractual term of ten years from issuance. They were not exercised from their inception through September 30, 2023.

The fair value of the July 2023 Warrants at issuance was $9,876 and was recorded as part of the warrant liabilities on the consolidated balance sheet. The Company remeasures the fair value at the end of each reporting

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
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period, with any adjustments being recorded as a component of other expense in the consolidated statements of operations and comprehensive loss.

The fair value was determined using the Monte-Carlo simulation model, which was based on significant inputs that are not observable in the market and represented a Level 3 measurement. See Note 2 for a discussion of the assumptions and estimates used in the fair value measurement. The following table provides a rollforward of the fair value of the July 2023 Warrants:

	Fair Value
Fair value at issuance date of July 11, 2023	$ 9,876
Increase in fair value	1,019
Balance as of September 30, 2023	$ 10,895

September 2023 Warrants

In September 2023, in connection with the issuance of the 2023 Notes, the Company issued fully vested warrants to purchase, at the holders' choice, shares of the Company's Series F convertible preferred stock, the most senior series of Preferred Stock of the Company that is then authorized, or the Company's common stock (the "September 2023 Warrants"). The September 2023 Warrants are immediately exercisable for a variable number of shares based on a total fixed dollar value, of $4,200, and an exercise price, at the holders' choice, of (a) $8.3843 per share, (b) the lowest original issue price of any series of Preferred Stock issued by the Company after the issuance date of the September 2023 Warrants, (c) the conversion or exercise price of any convertible debt security, option, or warrant issued by the Company after the issuance date of the September 2023 Warrants, or (d) the price at which the Company's common equity was first sold to the public by the Company in a firm-commitment underwritten offering or otherwise. The September 2023 Warrants have a contractual term of ten years from issuance. They were not exercised from their inception through September 30, 2023.

The fair value of the September 2023 Warrants at issuance was $2,592 and was recorded as part of the warrant liabilities on the consolidated balance sheet. The Company remeasures the fair value at the end of each reporting period, with any adjustments being recorded as a component of other expense in the consolidated statements of operations and comprehensive loss.

The fair value was determined using the Monte-Carlo simulation model, which was based on significant inputs that are not observable in the market and represented a Level 3 measurement. See Note 2 for a discussion of the assumptions and estimates used in the fair value measurement. No change in fair value was recorded for the September 2023 Warrants during the nine months ended September 30, 2023 as the fair value as of September 30, 2023 approximated the fair value at issuance date of September 7, 2023.

9. Commitments and Contingencies

Guarantees and Indemnification Obligations

The Company enters into standard indemnification agreements in the ordinary course of business. Pursuant to these agreements, the Company indemnifies and agrees to reimburse the indemnified party for losses and costs incurred by the indemnified party in connection with any patent, copyright, trade secret or other intellectual property or personal right infringement claim by any third party with respect to the Company's technology. The term of these indemnification agreements is generally perpetual after execution of the agreement. In addition, the Company has entered into indemnification agreements with members of its board of directors that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of its

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
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status or service as directors or officers. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. To date, the Company has not incurred any losses or any material costs related to this indemnification obligation and no claims with respect thereto were outstanding. The Company does not believe that the outcome of any claims under indemnification arrangements will have a material effect on its financial position, results of operations and cash flows, and it has not accrued any liabilities related to such obligations in its consolidated financial statements as of September 30, 2023 and December 31, 2022.

10. Convertible Preferred Stock

The Company has issued Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock (collectively, the "Convertible Preferred Stock"). The holders of Convertible Preferred Stock have liquidation rights in the event of a deemed liquidation that, in certain circumstances, is not solely within the control of the Company. Therefore, the Convertible Preferred Stock is classified outside of stockholders' deficit. The Company's certificate of incorporation, as amended and restated, authorized the Company to issue 78,112,639 shares of $0.00001 par value convertible preferred stock as of September 30, 2023 and December 31, 2022.

As of each balance sheet date, Convertible Preferred Stock consisted of the following**:**

	September 30, 2023				
	Convertible Preferred Shares Authorized	Convertible Preferred Shares Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Series A Convertible Preferred Stock	**5,500,000**	**5,500,000**	**$ 6,510**	**$ 9,550**	**5,500,000**
Series B Convertible Preferred Stock	**11,451,453**	**11,332,970**	**15,459**	**23,442**	**11,332,970**
Series C-1 Convertible Preferred Stock	**9,064,640**	**9,064,640**	**20,114**	**31,337**	**9,064,640**
Series C-2 Convertible Preferred Stock	**15,336,464**	**15,336,464**	**47,129**	**69,500**	**15,336,464**
Series D Convertible Preferred Stock	**11,994,461**	**11,994,461**	**43,899**	**60,433**	**11,994,461**
Series E Convertible Preferred Stock	**12,838,573**	**12,838,573**	**54,373**	**66,694**	**12,838,573**
Series F Convertible Preferred Stock	**11,927,048**	**11,927,048**	**99,846**	**113,794**	**11,927,048**
	78,112,639	**77,994,156**	**$ 287,330**	**$ 374,750**	**77,994,156**

	December 31, 2022				
	Convertible Preferred Shares Authorized	Convertible Preferred Shares Issued and Outstanding	Carrying Value	Liquidation Preference	Common Stock Issuable Upon Conversion
Series A Convertible Preferred Stock	5,500,000	5,500,000	$ 6,510	$ 9,303	5,500,000
Series B Convertible Preferred Stock	11,451,453	11,332,970	15,459	22,798	11,332,970
Series C-1 Convertible Preferred Stock	9,064,640	9,064,640	20,114	30,428	9,064,640
Series C-2 Convertible Preferred Stock	15,336,464	15,336,464	47,129	67,383	15,336,464
Series D Convertible Preferred Stock	11,994,461	11,994,461	43,899	58,460	11,994,461
Series E Convertible Preferred Stock	12,838,573	12,838,573	54,373	64,223	12,838,573
Series F Convertible Preferred Stock	11,927,048	11,927,048	99,846	109,306	11,927,048
	78,112,639	77,994,156	$ 287,330	$ 361,901	77,994,156

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

In January 2014, the Company issued a fully vested warrant to purchase 118,483 shares of the Company's Series B Convertible Preferred Stock. In September 2023, the Company issued fully vested warrants to purchase, at the holders' choice, a variable number of shares of the Company's Series F Convertible Preferred Stock, the most senior series of Preferred Stock of the Company that is then authorized, or the Company's common stock. The number of shares exercisable under these warrants is based on a fixed dollar value and an exercise price at the holders' choice, as defined in the warrant agreement. See Note 8.

The holders of the Convertible Preferred Stock have the following rights and preferences:

Voting

The holders of the Convertible Preferred Stock are entitled to vote, together with the holders of common stock, on all matters submitted to stockholders for a vote and have the right to vote the number of shares equal to the number of shares of common stock into which such Convertible Preferred Stock could convert on the record date for determination of stockholders entitled to vote. In addition, holders of Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock, voting as a separate class, are entitled to elect four directors of the Company.

Dividends

The holders of Convertible Preferred Stock are entitled to receive cumulative dividends in preference to any dividend on common stock at the rate of 6.0% of the Original Issue Price (as defined below) per share, per annum. Dividends are payable only when, as, and if declared by the board of directors. No dividends have been declared or paid by the Company since its inception in August 2010. The Original Issue Price is $1.00 per share for Series A convertible preferred stock, $1.266 per share for Series B convertible preferred stock, $2.2356 per share for Series C-1 convertible preferred stock, $3.0756 per share for Series C-2 convertible preferred stock, $3.6667 per share for Series D convertible preferred stock, $4.2893 per share for Series E convertible preferred stock and $8.3843 per share for Series F convertible preferred stock subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to Convertible Preferred Stock.

Liquidation Preference

In the event of any liquidation, voluntary or involuntary, dissolution or winding up of the Company or Deemed Liquidation Event (as defined below), holders of the Convertible Preferred Stock are entitled to receive, in preference to all other stockholders, and to the extent available, an amount equal to the Original Issue Price per share, adjusted for any stock dividends, stock splits or reclassifications, plus any accruing dividends accrued but unpaid, whether or not declared, together with any other dividends declared but unpaid. In the event that proceeds are not sufficient to permit payment in full to these holders, the proceeds will be ratably distributed among the holders of the Convertible Preferred Stock on a *pari passu* basis to the full preferential amount each such holder is otherwise entitled to receive.

After payments have been made in full to the holders of the Convertible Preferred Stock, then, to the extent available, holders of the common stock will receive the remaining amounts available for distribution ratably in proportion to the number of common shares held by them provided, however, if the holders of any series of the Convertible Preferred Stock would receive a greater amount of the proceeds if they had converted their shares of the Convertible Preferred Stock, then such holders shall not receive any proceeds under the preceding paragraph and will receive proceeds on an as converted to common stock basis.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
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Unless the holders of at least 60.0% of the then outstanding shares of the Convertible Preferred Stock, voting together as single class, elect otherwise, a Deemed Liquidation Event shall include a merger or consolidation (other than one in which stockholders of the Company own a majority by voting power of the outstanding shares of the surviving or acquiring corporation) or a sale, lease, transfer, exclusive license or other disposition of all or substantially all of the assets of the Company.

Conversion

Each share of Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock is convertible into common stock. Prior to authorization of the Series C-1 Convertible Preferred Stock, Series A Convertible Preferred Stock and Series B Convertible Preferred Stock was convertible into common stock, at the option of the stockholder at any time after the date of issuance. Upon authorization of the Series C-1 Convertible Preferred Stock, each class of the Convertible Preferred Stock is convertible into common stock, at the option of the stockholder, beginning two years after the effective issuance date, or August 2016. Each share of Series A, Series B, Series C-1, Series C-2, Series D, Series E and Series F convertible preferred stock will automatically be converted into shares of common stock, at the applicable conversion ratio of each series then in effect, (i) upon a qualified public offering, defined as the closing of a firm commitment underwritten public offering in which the gross proceeds raised equal or exceed $60,000; (ii) the consummation of a qualified SPAC transaction; or (iii) a date and time, or occurrence of an event specified by vote or written consent of 60.0% of the holders of the then outstanding shares of Convertible Preferred Stock.

The conversion ratio of each series of the Convertible Preferred Stock is determined by dividing the Original Issue Price of each series of convertible preferred stock by the Conversion Price of each series. The Conversion Price is $1.00 for Series A Convertible Preferred Stock, $1.266 for Series B Convertible Preferred Stock, $2.2356 for Series C-1 Convertible Preferred Stock, $3.0756 for Series C-2 Convertible Preferred Stock, $3.6667 for Series D Convertible Preferred Stock, $4.2893 per share for Series E Convertible Preferred Stock and $8.3843 per share for Series F Convertible Preferred Stock, resulting in a conversion ratio of 1-for-1 for each series of the Convertible Preferred Stock.

Redemption

Prior to August 19, 2014, the carrying values of the Series A Convertible Preferred Stock and Series B Convertible Preferred Stock were being accreted to their redemption values through March 8, 2018. Upon the closing of the Series C-1 convertible preferred stock financing, the redemption rights of the Series A Convertible Preferred Stock and Series B Convertible Preferred Stock were removed. As a result of the removal of the redemption rights, as of August 19, 2014, the Company ceased the periodic recording of adjustments to accrete the carrying values of Series A Convertible Preferred Stock and Series B Convertible Preferred Stock to each of their redemption values. None of the series of the Company's convertible preferred stock are redeemable as of September 30, 2023.

11. Common Stock

The Company's certificate of incorporation, as amended and restated, authorized the Company to issue 107,000,000 shares of $0.00001 par value common stock as of September 30, 2023 and December 31, 2022. The voting, dividend and liquidation rights of the holders of the Company's common stock are subject to and qualified by the rights, powers and preferences of the holders of the Convertible Preferred Stock set forth above.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

Each share of common stock entitles the holder to one vote on all matters submitted to a vote of the Company's stockholders. Common stockholders are entitled to receive dividends whenever funds are legally available and when declared by the board of directors, subject to the prior rights of holders of all classes of stock outstanding. When dividends are declared on shares of common stock, the Company must declare at the same time a dividend payable to the holders of the Convertible Preferred Stock equivalent to the dividend amount they would receive if each preferred share were converted into common stock. The Company may not pay dividends to common stockholders until all dividends accrued or declared but unpaid on the Convertible Preferred Stock have been paid in full. No dividends have been declared to date.

As of September 30, 2023 the Company had 102,503,790 shares of common stock available for the conversion of outstanding shares of the Convertible Preferred Stock (See Note 10), the exercise of outstanding stock options, the vesting of restricted stock units and the number of shares remaining available for grant under the Company's 2011 Stock Incentive Plan (See Note 12) as well as the exercise of the warrants to purchase common stock and convertible preferred stock (See Note 8), assuming the warrant to purchase convertible preferred stock became a warrant to purchase common stock at the applicable convertible preferred stock conversion ratio.

12. Stock-Based Compensation

The Company's 2011 Stock Incentive Plan, as amended, (the "Plan") provides for the Company to sell or issue restricted stock or restricted stock units, or to grant incentive stock options or nonqualified stock options for the purchase of common stock, to employees, officers, directors, consultants and advisors of the Company. Incentive stock options may only be granted to employees. The Plan is administered by the board of directors, or at the discretion of the board of directors, by a committee of the board. The exercise prices, vesting and other restrictions are determined at the discretion of the board of directors, or their committee if so delegated, except that the exercise price per share of stock options may not be less than 100% of the fair market value of the share of common stock on the date of grant and the term of stock option may not be greater than ten years. The Company values its common stock by taking into consideration its most recently available valuation of common stock performed by an independent valuation analyst engaged by management and the board of directors, as well as additional factors which may have changed since the date of the most recently available valuation through the date of grant. The Company generally grants stock-based awards with service conditions only, but also grants stock-based awards with both performance and service conditions from time to time.

The total number of shares of common stock that may be issued under the Plan was 25,740,000 as of September 30, 2023 and December 31, 2022, of which 1,554,267 and 3,091,915 were available for future grant as of September 30, 2023 and December 31, 2022, respectively.

Stock Options

Stock options granted under the Plan generally vest over four years, with some options having a 25% vesting after one year and the balance vesting pro rata each month and others vesting pro rata each month.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

The Company uses the Black-Scholes option-pricing model to estimate the fair value of stock options awards and determine the related compensation expense. The assumptions that the Company used to determine the fair value of stock options granted to employees and directors were as follows:

	Nine Months Ended September 30,	
	2023	**2022**
Risk-free interest rate	**3.7% - 4.3%**	1.8% - 3.4%
Weighted average expected term (in years)	**6.0**	5.8
Weighted average expected volatility	**59%**	58%
Weighted average expected dividend yield	**0%**	0%
Fair value of common stock per share	**4.27**	4.45

The following table summarizes the Company's stock option activity from December 31, 2022 to September 30, 2023:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at December 31, 2022	18,417,140	$ 1.91	5.6	$ 35,496
Granted	3,610,022	4.27		
Exercised	(85,265)	0.41		
Forfeited/Cancelled	(2,065,495)	2.45		
Expired	(94,500)	0.38		
Outstanding at September 30, 2023	19,781,902	$ 2.30	5.6	$ 57,707
Options exercisable at September 30, 2023	13,800,563	$ 1.57	4.0	$ 50,323

The weighted average grant-date fair value of stock options granted during the nine months ended September 30, 2023 and 2022 was $2.50 and $2.06 per share, respectively. The total fair value of stock options vested during the nine months ended September 30, 2023 and 2022 was $2,972 and $1,876, respectively.

The total intrinsic value of stock options exercised during the nine months ended September 30, 2023 and 2022 was $308 and $1,568, respectively. The intrinsic value of stock options is calculated as the difference between the exercise price of the stock options and the fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the Company's common stock.

As of September 30, 2023, total unrecognized stock-based compensation expense for stock options was $13,230, which is expected to be recognized over a weighted average period of 3.1 years.

Restricted Stock Units

No Restricted stock units ("RSU"s) were granted under the Plan prior to January 1, 2023. The RSUs granted under the Plan during the nine months ended September 30, 2023 have a one-year cliff vesting with performance conditions based on the timing of occurrence of certain changes in control or financing events.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

The following table summarizes the Company's RSU activity from December 31, 2022 to September 30, 2023:

	Number of Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2022	—	$ —
Granted	87,621	5.22
Outstanding at September 30, 2023	87,621	$ 5.22

No RSUs have vested during the nine months ended September 30, 2023 as the vesting conditions have not been met as of September 30, 2023. Total unrecognized stock-based compensation expense for RSUs as of September 30, 2023 was $457, the period over which the expense is going to be recognized is dependent on the achievement of the underlying performance conditions.

Stock-Based Compensation Expense

The Company recorded stock-based compensation expense in the following expense categories within its consolidated statements of operations and comprehensive loss:

	Nine Months Ended September 30,	
	2023	2022
Research and development	**$1,868**	$1,069
Selling, general and administrative	**1,152**	1,162
	$3,020	$2,231

13. Income Taxes

The Company estimates an annual effective tax rate of 0% for the year ending December 31, 2023 as the Company incurred losses for the nine months ended September 30, 2023, and is forecasting additional losses through the remainder of fiscal year ending December 31, 2023, resulting in an estimated net loss for both financial statement and tax purposes for the year ending December 31, 2023. Therefore, no federal or state income taxes are expected and none have been recorded at this time. Income taxes have been accounted for using the liability method.

Due to the Company's history of losses since inception, there is not enough evidence at this time to support that the Company will generate future income of a sufficient amount and nature to utilize the benefits of its net deferred tax assets. Accordingly, the deferred tax assets have been reduced by a full valuation allowance, since the Company does not currently believe that realization of its deferred tax assets is more likely than not.

As of September 30, 2023, the Company had no unrecognized income tax benefits that would reduce the Company's effective tax rate if recognized.

Fractyl Health, Inc.
Notes to Consolidated Financial Statements (Unaudited) (continued)
(in thousands, except share and per share information)

14. 401(k) Savings Plan

The Company maintains a defined contribution savings plan under Section 401(k) of the Internal Revenue Code. This plan covers substantially all U.S. employees who meet minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax and or after-tax basis. Company contributions to the plan may be made at the discretion of the Board of Directors. The Company has not made any matching or discretionary contributions to date under the 401(k) savings plan.

15. Net Loss Per Share

The following securities that could potentially dilute basic net loss per share in the future were not included in the computation of diluted net loss per share for the periods presented, because to do so would have been antidilutive:

	Nine Months Ended September 30,	
	2023	**2022**
Series A Convertible Preferred Stock	**5,500,000**	5,500,000
Series B Convertible Preferred Stock	**11,332,970**	11,332,970
Series C-1 Convertible Preferred Stock	**9,064,640**	9,064,640
Series C-2 Convertible Preferred Stock	**15,336,464**	15,336,464
Series D Convertible Preferred Stock	**11,994,461**	11,994,461
Series E Convertible Preferred Stock	**12,838,573**	12,838,573
Series F Convertible Preferred Stock	**11,927,048**	11,927,048
Outstanding stock options	**19,781,902**	19,046,885
Outstanding restricted stock units	**87,621**	—
Outstanding stock warrants	**465,315**	465,315
Total		97,506,356

The table presented above does not include the number of shares that may be issued upon exercises of the common stock or preferred stock warrants issued in connection with the 2022 Convertible Notes and the 2023 Notes because the number of shares to be issued under these warrants are variable based on a variable exercise price at the warrant holders' option. See Note 8.

Through and including , 2024 (the 25th day after the date of this prospectus), all dealers effecting transactions in the common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

Shares

Common Stock

PROSPECTUS

BofA Securities

Morgan Stanley

Evercore ISI

, 2024

Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by us. All amounts are estimated except the Securities and Exchange Commission registration fee, the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee and the Nasdaq listing fee.

	Amount
SEC registration fee	$ 14,760
FINRA filing fee	15,500
Nasdaq listing fee	*
Accountants' fees and expenses	*
Legal fees and expenses	*
Transfer agent's fees and expenses	*
Printing and engraving expenses	*
Miscellaneous expenses	*
Total	**$** *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers.

Fractyl Health, Inc. is incorporated under the laws of the State of Delaware. Reference is made to Section 102(b)(7) of the DGCL, which enables a corporation in its original certificate of incorporation or an amendment thereto to eliminate or limit the personal liability of a director for violations of the director's fiduciary duty, except (1) for any breach of the director's duty of loyalty to the corporation or its stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) pursuant to Section 174 of the DGCL, which provides for liability of directors for unlawful payments of dividends or unlawful stock purchase or redemptions or (4) for any transaction from which the director derived an improper personal benefit.

Section 145(a) of the DGCL provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), because he or she is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the DGCL provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor because the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses

(including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made with respect to any claim, issue or matter as to which he or she shall have been adjudged to be liable to the corporation unless and only to the extent that the adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, he or she is fairly and reasonably entitled to indemnity for such expenses which the adjudicating court shall deem proper.

Section 145(g) of the DGCL provides, in general, that a corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify the person against such liability under Section 145 of the DGCL.

We expect that the amended and restated certificate of incorporation adopted by us prior to the completion of this offering will provide that no director of our company shall be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duty as a director, except for liability (1) for any breach of the director's duty of loyalty to us or our stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) in respect of unlawful dividend payments or stock redemptions or repurchases or other distributions pursuant to Section 174 of the DGCL, or (4) for any transaction from which the director derived an improper personal benefit. In addition, our charter will provide that if the DGCL is amended to authorize the further elimination or limitation of the liability of directors, then the liability of a director of our company shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

We also expect our charter will further provide that any amendment, repeal or modification of such article unless otherwise required by law will not adversely affect any right or protection existing at the time of such repeal or modification with respect to any acts or omissions occurring before such repeal or amendment of a director serving at the time of such repeal or modification.

We expect that our amended and restated certificate of incorporation adopted by us prior to the completion of this offering, will provide that we shall indemnify each of our directors and executive officers, and shall have power to indemnify our other officers, employees and agents, to the fullest extent permitted by the DGCL as the same may be amended (except that in the case of an amendment, only to the extent that the amendment permits us to provide broader indemnification rights than the DGCL permitted us to provide prior to such the amendment) against any and all expenses, judgments, penalties, fines and amounts reasonably paid in settlement that are incurred by the director, officer or such employee or on the director's, officer's or employee's behalf in connection with any threatened, pending or completed proceeding or any claim, issue or matter therein, to which he or she is or is threatened to be made a party because he or she is or was serving as a director, officer or employee of our company, or at our request as a director, partner, trustee, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of our company and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. We expect the amended and restated certificate of incorporation will further provide for the advancement of expenses to each of our directors and, in the discretion of the board of directors, to certain officers and employees, in advance of the final disposition of such action, suit or proceeding only upon receipt of an undertaking by such person to repay all amounts advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such person is not entitled to be indemnified for such expenses.

In addition, we expect the amended and restated certificate of incorporation will provide that the right of each of our directors and officers to indemnification and advancement of expenses shall not be exclusive of any

other right now possessed or hereafter acquired under any statute, provision of the charter or bylaws, agreement, vote of stockholders or otherwise. Furthermore, our amended and restated certificate of incorporation will authorize us to provide insurance for our directors, officers, employees and agents against any liability, whether or not we would have the power to indemnify such person against such liability under the DGCL or the bylaws.

We intend to enter into indemnification agreements with each of our directors and our executive officers. These agreements will provide that we will indemnify each of our directors and such officers to the fullest extent permitted by law and our amended and restated certificate of incorporation.

We also maintain a general liability insurance policy which covers certain liabilities of directors and officers of our company arising out of claims based on acts or omissions in their capacities as directors or officers.

In any underwriting agreement we will enter into in connection with the sale of the common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act, against certain liabilities.

Item 15. Recent Sales of Unregistered Securities.

During the past three years, we issued securities that were not registered under the Securities Act as set forth below. The following is a summary of transactions during the preceding three fiscal years involving sales of our securities that were not registered under the Securities Act:

(a) Issuance of Capital Stock

From March to July 2020, we issued and sold to investors in a private placement an aggregate of 12,729,465 shares of Series E Preferred Stock at a purchase price of $4.2893 per share, for aggregate consideration of approximately $54.6 million.

In June and July 2021, we issued and sold to investors in a private placement an aggregate of 11,927,048 shares of Series F Preferred Stock at a purchase price of $8.3843 per share, for aggregate consideration of approximately $100.0 million.

In January 2022, we entered into a note purchase agreement with certain individual and institutional accredited investors, pursuant to which we sold and issued approximately $20.1 million aggregate principal amount of 2022 Convertible Notes in exchange for aggregate cash proceeds of approximately $20.1 million.

On July 11, 2023, we issued amended and restated the 2022 Convertible Notes to certain of the lenders in replacement of, but not in payment of, certain of the 2022 Convertible Notes. In connection with entering into these amendments, we issued to such lenders warrants to purchase shares of our common stock with par value of $0.00001 per share.

On September 7, 2023, we entered into a credit agreement with certain lenders, whereby Symbiotic Capital EO Holding, L.P. and Catalio Structured Opportunities AIV I LP were granted warrants in connection with the credit agreement to purchase shares of our common stock with par value of $0.00001 per share.

No underwriters were involved in the foregoing issuances of securities. The securities described in this section (a) of Item 15 were issued to investors in reliance upon the exemption from the registration requirements of the Securities Act, as set forth in Section 4(a)(2) under the Securities Act and Regulation D promulgated thereunder relative to transactions by an issuer not involving any public offering, to the extent an exemption from such registration was required. The recipients of securities in the transactions described above represented that they were accredited investors and were acquiring the securities for their own account for investment purposes only and not with a view to, or for sale in connection with, any distribution thereof and that they could bear the risks of the investment and could hold the securities for an indefinite period of time and appropriate legends were affixed to the instruments representing such securities issued in such transactions.

(b) Stock Option Grants, Restricted Stock Unit Grants and Option Exercises

Since January 1, 2020 through the date of this prospectus, we granted under the 2011 Plan (i) options to purchase up to 14,149,602 shares, at a weighted average exercise price of $3.52 per share, to certain of our employees, officers, directors, consultants and advisors, 3,356,607 of which were cancelled, expired without being exercised or were otherwise forfeited, and (ii) 1,297,280 RSUs to certain of our officers and directors, none of which were cancelled or expired, or otherwise forfeited.

No underwriters were involved in the foregoing issuances of securities. The issuances of stock options described in this paragraph (b) of Item 15 were issued pursuant to written compensatory plans or arrangements with our employees, directors, consultants and advisors, in reliance on the exemption provided by Rule 701 promulgated under the Securities Act, or pursuant to Section 4(a)(2) under the Securities Act, relative to transactions by an issuer not involving any public offering, to the extent an exemption from such registration was required. All recipients either received adequate information about us or had access, through employment or other relationships, to such information.

Item 16. Exhibits and Financial Statements.

Exhibit No.	Description of Exhibit
1.1*	Form of Underwriting Agreement.
3.1	Amended and Restated Certificate of Incorporation of the Registrant (as amended and currently in effect).
3.2	Bylaws of the Registrant (currently in effect).
3.3*	Form of Amended and Restated Certificate of Incorporation of the Registrant (to be in effect upon the consummation of this offering).
3.4*	Form of Amended and Restated Bylaws of the Registrant (to be in effect upon the consummation of this offering).
4.1	Specimen Stock Certificate evidencing the shares of common stock.
4.2	Fifth Amended and Restated Investors' Rights Agreement, dated June 9, 2021, by and among the Registrant and certain of its stockholders.
5.1*	Opinion of Latham & Watkins LLP.
10.1#	Credit Agreement and Guaranty, dated September 7, 2023, by and among the Registrant, Symbiotic Capital Opportunities Holding, L.P. and Catalio Structured Opportunities AIV LLP.
10.2	First Amendment to Credit Agreement and Guaranty, dated October 16, 2023, by and among the Registrant, Symbiotic Capital Opportunities Holding, L.P. and Symbiotic Capital Agency LLC.
10.3	Second Amendment to Credit Agreement and Guaranty, dated December 9, 2023, by and among the Registrant, Symbiotic Capital Opportunities Holding, L.P. and Symbiotic Capital Agency LLC.
10.4†	Fractyl Health, Inc. Amended and Restated 2011 Stock Incentive Plan and forms of award agreements thereunder.
10.5†*	Employment Letter Agreement, dated , by and between the Registrant and Harith Rajagopalan, M.D., Ph.D.
10.6†*	Employment Letter Agreement, dated , by and between the Registrant and Lisa A. Davidson.
10.7†*	Employment Letter Agreement, dated , by and between the Registrant and Jay D. Caplan.
10.8†*	Employment Letter Agreement, dated , by and between the Registrant and Sarah Toomey.

Exhibit No.	Description of Exhibit
10.9†*	Employment Letter Agreement, dated , by and between the Registrant and Timothy Kieffer, Ph.D.
10.10	Lease Agreement, dated November 17, 2015, by and between the Registrant (f/k/a Fractyl Laboratories, Inc.) and BP 17 Hartwell LLC.
10.11	Lease Agreement, dated August 10, 2022, by and between the Registrant (f/k/a Fractyl Laboratories, Inc.) and BP 17 Hartwell LLC.
10.12†*	Fractyl Health, Inc. 2024 Incentive Award Plan and forms of award agreements thereunder.
10.13†*	Fractyl Health, Inc. 2024 Employee Stock Purchase Plan.
10.14†*	Fractyl Health, Inc. Non-Employee Director Compensation Program.
10.15†	Form of Indemnification Agreement by and among the Registrant and its directors and officers.
21.1	List of Subsidiaries of the Registrant.
23.1	Consent of Ernst & Young LLP, independent registered public accounting firm.
23.2*	Consent of Latham & Watkins LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included on signature page).
107	Filing Fee Table.

* To be filed by amendment.
† Indicates a management contract or compensatory plan or arrangement.
# Certain confidential portions of this Exhibit were omitted by means of marking such portions with brackets ("[***]") because the identified confidential portions (i) are not material and (ii) would be competitively harmful if publicly disclosed.

Item 17. Undertakings.

The undersigned registrant hereby undertakes to provide to the underwriter, at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Lexington, Commonwealth of Massachusetts, on this 14th day of December, 2023.

FRACTYL HEALTH, INC.

By: /s/ Harith Rajagopalan
Harith Rajagopalan, M.D., Ph.D.
Co-Founder, Chief Executive Officer and Director

SIGNATURES AND POWER OF ATTORNEY

We, the undersigned officers and directors of Fractyl Health, Inc., hereby severally constitute and appoint Harith Rajagopalan and Lisa A. Davidson, and each of them singly (with full power to each of them to act alone), our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for him and in his name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement (or any other registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as full to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities held on the dates indicated.

Signature	Title	Date
/s/ Harith Rajagopalan Harith Rajagopalan, M.D., Ph.D.	Co-Founder, Chief Executive Officer and Director (Principal Executive Officer)	December 14, 2023
/s/ Lisa A. Davidson Lisa A. Davidson	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	December 14, 2023
/s/ Kelly Barnes Kelly Barnes	Director	December 14, 2023
/s/ William W. Bradley William W. Bradley	Director	December 14, 2023
/s/ Marc Elia Marc Elia	Director	December 14, 2023
/s/ Clive Meanwell Clive Meanwell, M.B., Ch.B., M.D.	Director	December 14, 2023
/s/ Ajay Royan Ajay Royan	Director	December 14, 2023
/s/ Amy W. Schulman Amy W. Schulman	Director	December 14, 2023
/s/ Allan R. Will Allan R. Will	Chairman	December 14, 2023

Exhibit 3.1

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
FRACTYL LABORATORIES INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Fractyl Laboratories Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "**General Corporation Law"),**

DOES HEREBY CERTIFY:

1. That the name of this corporation is Fractyl Laboratories Inc., and that this corporation was originally incorporated under the name MedCatalyst, Inc. pursuant to the General Corporation Law on August 30, 2010.

2. That the Board of Directors duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Fractyl Health, Inc. (the "**Corporation**").

SECOND: The address of the registered office of the Corporation in the State of Delaware is Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, County of New Castle 19801. The name of its registered agent at such address is The Corporation Trust Company.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 107,000,000 shares of common stock, par value $0.00001 per share ("**Common Stock**"), and (ii) 78,112,639 shares of preferred stock, par value $0.00001 per share ("**Preferred Stock**").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings). There shall be no cumulative voting. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of this Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

Preferred Stock may be issued from time to time in one or more series, each such series to consist of such number of shares and to have such terms, rights, powers and preferences, and the qualifications and limitations with respect thereto, as stated or expressed herein.

C. SERIES A PREFERRED STOCK, SERIES B PREFERRED STOCK, SERIES C-1 PREFERRED STOCK, SERIES C-2 PREFERRED STOCK, SERIES D PREFERRED STOCK, SERIES E PREFERRED STOCK AND SERIES F PREFERRED STOCK

Of the 78,112,639 shares of Preferred Stock, (i) 5,500,000 shares of the authorized Preferred Stock of the Corporation are hereby designated Series A Preferred Stock (the "**Series A Preferred Stock**"); (ii) 11,451,453 shares of the authorized Preferred Stock of the Corporation are hereby designated Series B Preferred Stock (the "**Series B Preferred Stock**"); (iii) 9,064,640 shares of the authorized Preferred Stock of the Corporation are hereby designated Series C-1 Preferred Stock (the "**Series C-1 Preferred Stock**"); (iv) 15,336,464 shares of the authorized Preferred Stock of the Corporation are hereby designated Series C-2 Preferred Stock (the "**Series C-2 Preferred Stock**"); (v) 11,994,461 shares of the authorized Preferred Stock of the Corporation are hereby designated Series D Preferred Stock (the "**Series D Preferred Stock**"); (vi) 12,838,573 shares of the authorized Preferred Stock of the Corporation are hereby designated Series E Preferred Stock (the "**Series E Preferred Stock**"); and (vii) 11,927,048 shares of the authorized Preferred Stock of the Corporation are hereby designated Series F Preferred Stock (the "**Series F Preferred Stock**"), with each series having the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. Unless otherwise indicated, references to "Sections" or "Subsections" in this Part C of this Article Fourth refer to sections and subsections of Part C of this Article FOURTH.

1. Dividends.

1.1 From and after the date of the issuance of any shares of Series A Preferred Stock, dividends at the rate per annum of six percent of the Series A Original Issue Price (as defined below) per share shall accrue on such shares of Series A Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock) (the "**Series A Accruing Dividends**").

1.2 From and after the date of the issuance of any shares of Series B Preferred Stock, dividends at the rate per annum of six percent of the Series B Original Issue Price (as defined below) per share shall accrue on such shares of Series B Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock) (the "**Series B Accruing Dividends**").

1.3 From and after the date of the issuance of any shares of Series C-1 Preferred Stock, dividends at the rate per annum of six percent of the Series C-1 Original Issue Price (as defined below) per share shall accrue on such shares of Series C-1 Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C-1 Preferred Stock) (the "**Series C-1 Accruing Dividends**").

1.4 From and after the date of the issuance of any shares of Series C-2 Preferred Stock, dividends at the rate per annum of six percent of the Series C-2 Original Issue Price (as defined below) per share shall accrue on such shares of Series C-2 Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C-2 Preferred Stock) (the "**Series C-2 Accruing Dividends**").

1.5 From and after the date of the issuance of any shares of Series D Preferred Stock, dividends at the rate per annum of six percent of the Series D Original Issue Price (as defined below) per share shall accrue on such shares of Series D Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series D Preferred Stock) (the "**Series D Accruing Dividends**").

1.6 From and after the date of the issuance of any shares of Series E Preferred Stock, dividends at the rate per annum of six percent of the Series E Original Issue Price (as defined below) per share shall accrue on such shares of Series E Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series E Preferred Stock) (the "**Series E Accruing Dividends**").

1.7 From and after the date of the issuance of any shares of Series F Preferred Stock, dividends at the rate per annum of six percent of the Series F Original Issue Price (as defined below) per share shall accrue on such shares of Series F Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series F Preferred Stock) (the "**Series F Accruing Dividends**" and, together with the Series A Accruing Dividends, the Series B Accruing Dividends, the Series C-1 Accruing Dividends, the Series C-2 Accruing Dividends, the Series D Accruing Dividends and the Series E Accruing Dividends, the "**Accruing Dividends**").

1.8 Accruing Dividends shall accrue from day to day, whether or not declared, and shall be cumulative; provided however, that except as set forth in the following sentence of this Subsection 1.8 or in Subsection 2.1, such Accruing Dividends shall be payable only when, as, and if declared by the Board of Directors of the Corporation (the "**Board of Directors**") and the Corporation shall be under no obligation to pay such Accruing Dividends. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in the Certificate of Incorporation) the holders of each series of Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Preferred Stock in an amount at least equal to the greater of (i) the amount of the aggregate Accruing Dividends then accrued on such share of Preferred Stock and not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of the applicable series of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of such series of Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the Original Issue Price (as defined below) applicable to such series of Preferred Stock; provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of a series of Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Preferred Stock dividend for such series. The "**Series A Original Issue Price**" shall mean $1.00 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock. The "**Series B Original Issue Price**" shall mean $1.266 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series B Preferred Stock. The "**Series C-1 Original Issue Price**" shall mean $2.2356 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C-1 Preferred Stock. The "**Series C-2 Original Issue Price**" shall mean $3.0756 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series C-2 Preferred Stock. The "**Series D Original Issue Price**" shall mean $3.6667 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series D Preferred Stock. The "**Series E Original Issue Price**" shall mean $4.2893 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series E Preferred Stock. The "**Series F Original Issue Price**" shall mean $8.3843 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series F Preferred Stock. Each of the Series A Original Issue Price, the Series B Original Issue Price, the Series C-1 Original Issue Price, the Series C-2 Original Issue Price, the Series D Original Issue Price, the Series E Original Issue Price and the Series F Original Issue Price is sometimes referred to herein as an "**Original Issue Price**."

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Payments to Holders of Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation (including a Deemed Liquidation Event, as defined below), the holders of shares of each series of Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to the Corporation's stockholders, before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the greater of (i) the Original Issue Price applicable to such series, plus any Accruing Dividends accrued but unpaid thereon, whether or not declared, together with any other dividends declared but unpaid thereon, and (ii) such amount per share as would have been payable had all shares of such series of Preferred Stock been converted into Common Stock pursuant to Section 4 immediately prior to such liquidation, dissolution, winding up or Deemed Liquidation Event (the amount payable pursuant to this sentence, as applicable to each series of Preferred Stock, the "**Preferred Liquidation Amount**"). If upon any such liquidation, dissolution or winding up of the Corporation, the assets of the Corporation available for distribution to the Corporation's stockholders shall be insufficient to pay the holders of shares of Preferred Stock the full amount to which they shall be entitled under this Subsection 2.1, the holders of shares of Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Payments to Holders of Common Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation (including a Deemed Liquidation Event), after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock, the remaining assets of the Corporation available for distribution to the Corporation's stockholders shall be distributed among the holders of shares of Common Stock, pro rata based on the number of shares held by each such holder.

2.3 Deemed Liquidation Events.

2.3.1 Definition. Each of the following events shall be deemed to be a liquidation of the Corporation for purposes of this Section 2 (a "**Deemed Liquidation Event**") unless the holders of at least 60% of the then outstanding shares of Preferred Stock (voting as a single class and on an as-converted basis) (the "**Requisite Investors**") elect otherwise by written notice given to the Corporation at least 10 days prior to the effective date of any such event:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation (provided that, for the purpose of this Subsection 2.3.1, all shares of Common Stock issuable upon exercise of Options (as defined below) outstanding immediately prior to such merger or consolidation or upon conversion of Convertible Securities (as defined below) outstanding immediately prior to such merger or consolidation shall be deemed to be outstanding immediately prior to such merger or consolidation and, if applicable, converted or exchanged in such merger or consolidation on the same terms as the actual outstanding shares of Common Stock are converted or exchanged);

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets or intellectual property of the Corporation and its subsidiaries taken as a whole, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation; or

(c) the acquisition by any person or group of related persons in one or a series of related transactions of shares of capital stock of the Corporation that represent, immediately following any such transaction, at least a majority, by voting power, of the Corporation's capital stock; provided, however, that any such transaction involving the Corporation, the principal purpose of which is to raise capital for the Corporation, shall not constitute a "Deemed Liquidation Event."

Notwithstanding the foregoing, a Qualified SPAC Transaction (as defined below) shall not be a Deemed Liquidation Event. A "**Qualified SPAC Transaction**" means a business combination involving the Corporation (or any of its subsidiaries) and a newly incorporated blank check company that is a publicly traded special purpose acquisition company or its affiliate formed solely for the purpose of effecting such a business combination with one or more business, which, for the avoidance of doubt, is deemed to be a "blank check" company under the applicable U.S. securities laws (a "**SPAC**" and any such transaction a "**SPAC Transaction**"), whether by merger, consolidation, reorganization, recapitalization, capital stock exchange, stock sale, asset sale or other similar transaction or business combination (or series of related transactions or related business combinations) in which the shares of common stock of such SPAC ("**SPAC Shares**") to be received by the holders of Preferred Stock in respect of each share of Preferred Stock (including, for the avoidance of doubt, any Common Stock that may be issuable upon conversion of Preferred Stock) in connection therewith at the closing on the date of consummation of such SPAC Transaction (A) are common stock of the SPAC, (B) are listed on the New York Stock Exchange, the Nasdaq Global Market or the Nasdaq Global Select Market (each, an "**Approved Exchange**") and (C) are registered pursuant to a registration statement on Form S-4.

2.3.2 Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(i) unless the agreement or plan of merger or consolidation for such transaction (the "**Merger Agreement**") provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2.

(b) In the event of a Deemed Liquidation Event referred to in Subsection 2.3.1(a)(ii) or 2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within 90 days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the 90th day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (ii) to require the redemption of such shares of Preferred Stock, and (ii) if the Requisite Investors so request in a written instrument delivered to the Corporation not later than 120 days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the "**Available Proceeds**"), on the 150th day after such Deemed Liquidation Event, to redeem all outstanding shares of Preferred Stock at a price per share for each series equal to the Preferred Liquidation Amount applicable to such series. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, the Corporation shall redeem a pro rata portion of each holder's shares of Preferred Stock to the fullest extent of such Available Proceeds, based on the respective amounts which would otherwise be payable in respect of the shares to be redeemed if the Available Proceeds were sufficient to redeem all such shares, and shall redeem the remaining shares to have been redeemed as soon as practicable after the Corporation has funds legally available therefor.

(c) To effect such a redemption, the Corporation shall send written notice of the redemption (the "**Redemption Notice**") to each holder of record of Preferred Stock not less than 20 days prior to each redemption date. Each Redemption Notice shall state:

(i) the number of shares of each series of Preferred Stock held by the holder that the Corporation shall redeem on the redemption date specified in the Redemption Notice;

(ii) the redemption date and the applicable redemption price at which each share shall be redeemed;

(iii) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Subsection 4.1); and

(iv) that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Preferred Stock to be redeemed.

(d) On or before the applicable redemption date, each holder of shares of Preferred Stock to be redeemed on such redemption date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall deliver to the Corporation, in the manner and at the place designated in the Redemption Notice, the certificate or certificates representing the shares of Preferred Stock so redeemed, duly endorsed or signed in blank or to the Corporation (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) and thereupon the redemption price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Preferred Stock represented by a certificate are redeemed, a new certificate representing the unredeemed shares of Preferred Stock shall promptly be issued to such holder.

(e) If the Redemption Notice shall have been duly given, and if on the applicable redemption date the redemption price payable upon redemption of the shares of Preferred Stock to be redeemed on such redemption date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that the certificates evidencing any of the shares of Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Preferred Stock shall cease to accrue after such redemption date and all rights with respect to such shares shall forthwith after the redemption date terminate, except only the right of the holders to receive the redemption price without interest upon surrender of their certificate or certificates therefor.

(f) Prior to the distribution or redemption provided for in Subsection 2.3.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business.

2.3.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such voluntary or involuntary liquidation, dissolution or winding up of the Corporation, Deemed Liquidation Event or redemption pursuant to Subsection 2.3.2(b) shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board of Directors.

2.3.4 Allocation of Escrow. In the event of a Deemed Liquidation Event pursuant to Subsection 2.3.1(a)(i), if any portion of the consideration payable to the stockholders of the Corporation is placed into escrow and/or is payable to the stockholders of the Corporation subject to contingencies, the Merger Agreement shall provide that (a) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event and (b) any additional consideration which becomes payable to the stockholders of the Corporation upon release from escrow or satisfaction of contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Subsections 2.1 and 2.2 after taking into account the previous payment of the Initial Consideration as part of the same transaction.

3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of this Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class.

3.2 Board of Directors. The holders of record of the shares of Preferred Stock, exclusively and as a separate class, shall be entitled to elect four directors of the Corporation (the "**Preferred Directors**"). Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Preferred Stock fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Subsection 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Preferred Stock elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Subsection 3.2, a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Subsection 3.2.

3.3 Preferred Stock Protective Provisions. At any time when shares of Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do (or permit any subsidiary to do) any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the Requisite Investors, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

(a) liquidate, dissolve or wind-up the business and affairs of the Corporation or effect any Deemed Liquidation Event, or consent to any of the foregoing, except in the case of a Qualified SPAC Transaction;

(b) amend, alter or repeal any provision of the Certificate of Incorporation or Bylaws of the Corporation.

(c) create, or authorize the creation of, or issue or obligate itself to issue shares of, any additional class or series of capital stock unless the same ranks junior to the Series A Preferred Stock, Series B Preferred Stock, Series C-1 Preferred Stock, Series C-2 Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series F Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption, or increase the authorized number of shares of Series A Preferred Stock, Series B Preferred Stock, Series C-1 Preferred Stock, Series C-2 Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series F Preferred Stock or increase the authorized number of shares of any additional class or series of capital stock unless the same ranks junior to the Series A Preferred Stock, Series B Preferred Stock, Series C-1 Preferred Stock, Series C-2 Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series F Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption;

(d) (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with the Series A Preferred Stock, Series B Preferred Stock, Series C-1 Preferred Stock, Series C-2 Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series F Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series A Preferred Stock, Series B Preferred Stock, Series C-1 Preferred Stock, Series C-2 Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series F Preferred Stock in respect of any such right, preference or privilege, or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series A Preferred Stock, Series B Preferred Stock, Series C-1 Preferred Stock, Series C-2 Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series F Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with the Series A Preferred Stock, Series B Preferred Stock, Series C-1 Preferred Stock, Series C-2 Preferred Stock, Series D Preferred Stock, Series E Preferred Stock or Series F Preferred Stock in respect of any such right, preference or privilege;

(e) purchase, retire, or redeem, directly or indirectly, including by permitting any subsidiary of the Corporation to purchase, retire, or redeem, any shares of capital stock of the Corporation or otherwise, other than (i) redemptions of the Preferred Stock as expressly authorized herein, and (ii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at the lower of the original purchase price or the then-current fair market value thereof;

(f) create, or authorize the creation of, or issue, or authorize the issuance of any debt security, or incur indebtedness for borrowed money, or permit any subsidiary to take any such action with respect to any debt security or indebtedness for borrowed money, if (i) the aggregate indebtedness of the Corporation and its subsidiaries for borrowed money following such action would exceed $500,000, or (ii) the debt security or indebtedness is participating or has any equity features;

(g) create, or hold capital stock in, any subsidiary that is not wholly owned (either directly or through one or more other subsidiaries) by the Corporation, or sell, transfer or otherwise dispose of any capital stock of any direct or indirect subsidiary of the Corporation, or permit any direct or indirect subsidiary to sell, lease, transfer, exclusively license or otherwise dispose (in a single transaction or series of related transactions) of all or substantially all of the assets of such subsidiary;

(h) pay or declare any dividend or make any distribution on any shares of capital stock of the Corporation other than the Preferred Stock, except for dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock;

(i) acquire all or substantially all of the properties, assets or stock of any other person or entity;

(j) effect a significant change in the business of the Corporation and its subsidiaries as conducted at the time of the effectiveness of the filing of this Certificate of Incorporation;

(k) exclusively license all or substantially all of the assets or intellectual property of the Corporation or any subsidiary of the Corporation;

(l) permit any subsidiary of the Corporation to issue such subsidiary's equity securities other than to the Corporation or as approved by the Board of Directors, including the approval of at least the total number of Preferred Directors then in office less one (the "**Preferred Director Consent**");

(m) make any loan or advance to, or acquire any stock or other securities of, any entity unless it is wholly owned by the Corporation;

(n) make any loan or advance to any person or entity (other than a wholly owned subsidiary of the Corporation), including, without limitation, any employee or director of the Corporation or any subsidiary of the Corporation, other than advances and similar expenditures in the ordinary course of business or under the terms of an equity plan approved by the Board of Directors, including the Preferred Director Consent;

(o) guarantee directly or indirectly any indebtedness or obligations other than trade accounts of any subsidiary of the Corporation arising in the ordinary course of business;

(p) without the approval of the Board of Directors, including the Preferred Director Consent, amend, modify or adopt any employee equity plan or any transfer, vesting or repurchase provisions with respect to any restricted stock or option with any employee, or any new equity-based agreements that contain more favorable provisions with respect to vesting, repurchase or transfer; or

(q) change the authorized number of directors constituting the Board of Directors to a number other than nine.

3.4 Series E Preferred Stock Protective Provisions. At any time when shares of Series E Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do (or permit any subsidiary to do) any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of a majority of the Series E Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

(a) amend, alter or repeal any provision of the Certificate of Incorporation or Bylaws of the Corporation in a manner that disproportionately (as compared with shares of any other series of Preferred Stock) and adversely affects any of the powers, preferences, privileges or rights of the Series E Preferred Stock; or

(b) increase or decrease the authorized number of shares of Series E Preferred Stock.

3.5 Series F Preferred Stock Protective Provisions. At any time when shares of Series F Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do (or permit any subsidiary to do) any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of a majority of the Series F Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect:

(a) amend, alter or repeal any provision of the Certificate of Incorporation or Bylaws of the Corporation in a manner that disproportionately (as compared with shares of any other series of Preferred Stock) and adversely affects any of the powers, preferences, privileges or rights of the Series F Preferred Stock; or

(b) increase or decrease the authorized number of shares of Series F Preferred Stock.

4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

4.1 Right to Convert.

4.1.1 Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Original Issue Price applicable to such series of Preferred Stock by the applicable Conversion Price (as defined below) in effect at the time of conversion. The "**Series A Conversion Price**" shall initially be equal to $1.00. The "**Series B Conversion Price**" shall initially be equal to $1.266. The "**Series C-1 Conversion Price**" shall initially be equal to $2.2356. The "**Series C-2 Conversion Price**" shall initially be equal to $3.0756. The "**Series D Conversion Price**" shall initially be equal to $3.6667. The "**Series E Conversion Price**" shall initially be equal to $4.2893. The "**Series F Conversion Price**" shall initially be equal to $ 8.3843. Each of the Series A Conversion Price, the Series B Conversion Price, the Series C-1 Conversion Price, the Series C-2 Conversion Price, the Series D Conversion Price, the Series E Conversion Price and the Series F Conversion Price is sometimes referred to herein as a "**Conversion Price**," and they are sometimes collectively referred to herein as the "**Conversion Prices**." Each such initial Conversion Price, and the rates at which shares of Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.1.2 Termination of Conversion Rights. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares of Common Stock to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder elects to convert all or any number of the shares of the Preferred Stock represented by such certificate or certificates and, if applicable, any event on which such conversion is contingent. Such notice shall state such holder's name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such certificates (or lost certificate affidavit and agreement) and notice shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the shares represented by such certificate shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time, (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Conversion Price applicable to a series of Preferred Stock below the then par value of the shares of Common Stock issuable upon conversion of such series of Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and nonassessable shares of Common Stock at such adjusted Conversion Price.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and vote, shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Subsection 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and shall not be reissued as shares of such series, and the Corporation (without the need for stockholder action) may thereafter take such appropriate action as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Conversion Price applicable to a series of Preferred Stock shall be made for any declared but unpaid dividends on the Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Certificate of Incorporation, the following definitions shall apply:

(a) "**Option**" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) "**Series F Original Issue Date**" shall mean the date on which the first share of Series F Preferred Stock was issued.

(c) "**Convertible Securities**" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) "**Additional Shares of Common Stock**" shall mean all shares of Common Stock issued (or, pursuant to Subsection 4.4.3 below, deemed to be issued) by the Corporation after the Series F Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, "**Exempted Securities**"):

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on all series of Preferred Stock on a pro rata basis;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Subsection 4.5, 4.6, 4.7 or 4.8;

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors, including the Preferred Director Consent;

(iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;

(v) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction approved by the Board of Directors, including the Preferred Director Consent;

(vi) shares of Common Stock, Options or Convertible Securities issued to suppliers or third party service providers in connection with the provision of goods or services pursuant to transactions approved by the Board of Directors, including the Preferred Director Consent; or

(vii) shares of Common Stock, Options or Convertible Securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors, including the Preferred Director Consent.

4.4.2 No Adjustment of Conversion Prices. No adjustment in the Conversion Prices shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Requisite Investors agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series F Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Conversion Price applicable to a series of Preferred Stock pursuant to the terms of Subsection 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Conversion Price applicable to a series of Preferred Stock to an amount which exceeds the lower of (i) the applicable Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the applicable Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Conversion Price applicable to a series of Preferred Stock pursuant to the terms of Subsection 4.4.4 (either because the consideration per share (determined pursuant to Subsection 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the applicable Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series F Original Issue Date), are revised after the Series F Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Subsection 4.4.3(a)) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Conversion Price applicable to a series of Preferred Stock pursuant to the terms of Subsection 4.4.4, such Conversion Price shall be readjusted to the Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Conversion Price applicable to a series of Preferred Stock provided for in this Subsection 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Subsection 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at the time such Option or Convertible Security is issued or amended, any adjustment to the applicable Conversion Price that would result under the terms of this Subsection 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the applicable Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Conversion Prices Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series F Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Subsection 4.4.3), without consideration or for a consideration per share less than the Conversion Price applicable to a series of Preferred Stock in effect immediately prior to such issue, then such Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 \times (A + B) \div (A + C)$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "**CP_2**" shall mean the Conversion Price with respect to the particular series of Preferred Stock in effect immediately after such issue of Additional Shares of Common Stock

(b) "**CP_1**" shall mean the Conversion Price with respect to the particular series of Preferred Stock in effect immediately prior to such issue of Additional Shares of Common Stock;

(c) "**A**" shall mean the number of shares of Common Stock outstanding and deemed outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issue or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) "**B**" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued at a price per share equal to CP_1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP_1); and

(e) "**C**" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Subsection 4.4, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Subsection 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing

(i) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Conversion Price applicable to a series of Preferred Stock pursuant to the terms of Subsection 4.4.4, and such issuance dates occur within a period of no more than 90 days from the first such issuance to the final such issuance, then, upon the final such issuance, such Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Series F Original Issue Date effect a subdivision of the outstanding Common Stock, each Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of Preferred Stock shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series F Original Issue Date combine the outstanding shares of Common Stock, each Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of Preferred Stock shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series F Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price applicable to each series of Preferred Stock in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying such Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing, (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, each Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter such Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions and (b) no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series F Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Subsection 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Subsections 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of such series of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of such series of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of such series of Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Price applicable to such series of Preferred Stock) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of such series of Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of any Conversion Price pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than 15 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of the series of Preferred Stock affected a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which such series of Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than 15 days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Conversion Price then applicable to such series of Preferred Stock, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of such Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of any series of Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of such series of Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to such series of Preferred Stock and the Common Stock. Such notice shall be sent at least 15 days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $60,000,000 of gross proceeds to the Corporation (a "**Qualified Public Offering**"), (b) the consummation of a Qualified SPAC Transaction, or (c) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Investors (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the "**Mandatory Conversion Time**"), (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rates and (ii) such shares may not be reissued by the Corporation. For the avoidance of doubt, upon automatic conversion of all outstanding shares of Preferred Stock into shares of Common Stock immediately prior to a Qualified SPAC Transaction pursuant to the preceding sentence, all rights of the Preferred Stock under Section 2 with respect to preferential payments (or any other payments that may otherwise differ from distributions to Common Stock) will terminate.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Subsection 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender the certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of their certificate or certificates (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Subsection 5.2. As soon as practicable after the Mandatory Conversion Time and the surrender of the certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof, together with cash as provided in Subsection 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of such shares of Preferred Stock accordingly.

6. Redemption. The Preferred Stock shall not have any rights to redemption except as explicitly set forth in Subsection 2.3.2.

7. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

8. Waiver. Any of the rights, powers, preferences and other terms of a series of Preferred Stock set forth herein may be waived on behalf of all holders of such series of Preferred Stock by the affirmative written consent or vote of the Requisite Investors, except as otherwise specified in this Certificate of Incorporation. Notwithstanding the foregoing, (a) any of the rights, powers, preferences and other terms of the Series E Preferred Stock with respect to the protective provisions set forth in Article IV(C) 3.4 herein may only be waived by the affirmative written consent or vote of the a majority of the holders of Series E Preferred Stock and (b) any of the rights, powers, preferences and other terms of the Series F Preferred Stock with respect to the protective provisions set forth in Article IV(C) 3.5 herein may only be waived by the affirmative written consent or vote of the a majority of the holders of Series F Preferred Stock.

9. Notices. Any notice required or permitted by the provisions of this Article FOURTH to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by this Certificate of Incorporation or By-Laws of the Corporation, in furtherance of and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the By-Laws of the Corporation.

SIXTH: Subject to any additional vote required by this Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the By-Laws of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the By-Laws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the By-Laws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the By-Laws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article NINTH to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article NINTH by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TENTH: The following indemnification provisions shall apply to the persons enumerated below.

1. Right to Indemnification of Directors and Officers. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "**Indemnified Person**") who was or is made or is threatened to be made a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "**Proceeding**"), by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the Corporation or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) reasonably incurred by such Indemnified Person in such Proceeding. Notwithstanding the preceding sentence, except as otherwise provided in Section 3 of this Article TENTH, the Corporation shall be required to indemnify an Indemnified Person in connection with a Proceeding (or part thereof) commenced by such Indemnified Person only if the commencement of such Proceeding (or part thereof) by the Indemnified Person was authorized in advance by the Board of Directors.

2. Prepayment of Expenses of Directors and Officers. The Corporation shall pay the expenses (including attorneys' fees) incurred by an Indemnified Person in defending any Proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Indemnified Person to repay all amounts advanced if it should be ultimately determined that the Indemnified Person is not entitled to be indemnified under this Article TENTH or otherwise.

3. Claims by Directors and Officers. If a claim for indemnification or advancement of expenses under this Article TENTH is not paid in full within 30 days after a written claim therefor by the Indemnified Person has been received by the Corporation, the Indemnified Person may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Indemnified Person is not entitled to the requested indemnification or advancement of expenses under applicable law.

4. Indemnification of Employees and Agents. The Corporation may indemnify and advance expenses to any person who was or is made or is threatened to be made or is otherwise involved in any Proceeding by reason of the fact that such person, or a person for whom such person is the legal representative, is or was an employee or agent of the Corporation or, while an employee or agent of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorney's fees) reasonably incurred by such person in connection with such Proceeding. The ultimate determination of entitlement to indemnification of persons who are non-director or officer employees or agents shall be made in such manner as is determined by the Board of Directors in its sole discretion. Notwithstanding the foregoing sentence, the Corporation shall not be required to indemnify a person in connection with a Proceeding initiated by such person if the Proceeding was not authorized in advance by the Board of Directors.

5. Advancement of Expenses of Employees and Agents. The Corporation may pay the expenses (including attorney's fees) incurred by an employee or agent in defending any Proceeding in advance of its final disposition on such terms and conditions as may be determined by the Board of Directors.

6. Non-Exclusivity of Rights. The rights conferred on any person by this Article TENTH shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of the Certificate of Incorporation, the By-Laws of the Corporation, agreement, vote of stockholders or disinterested directors or otherwise.

7. Other Indemnification. The Corporation's obligation, if any, to indemnify any person who was or is serving at its request as a director, officer or employee of another corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise shall be reduced by any amount such person has actually collected as indemnification from such other corporation, partnership, limited liability company, joint venture, trust, organization or other enterprise.

8. Insurance. The Board of Directors may, to the full extent permitted by applicable law as it presently exists, or may hereafter be amended from time to time, authorize an appropriate officer or officers to purchase and maintain at the Corporation's expense insurance: (a) to indemnify the Corporation for any obligation which it incurs as a result of the indemnification of directors, officers and employees under the provisions of this Article TENTH; and (b) to indemnify or insure directors, officers and employees against liability in instances in which they may not otherwise be indemnified by the Corporation under the provisions of this Article TENTH.

Amendment or Repeal. Any repeal or modification of the foregoing provisions of this Article TENTH shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification. The rights provided hereunder shall inure to the benefit of any Indemnified Person and such person's heirs, executors and administrators.

ELEVENTH: The Corporation renounces any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director of the Corporation who is not an employee of or consultant to the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of or consultant to the Corporation or any of its subsidiaries (collectively, "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this Corporation in accordance with Section 228 of the General Corporation Law.

4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

[signature page follows]

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this Corporation on this 9th day of June, 2021.

By: /s/ Harith Rajagopalan
Harith Rajagopalan
Chief Executive Officer

Exhibit 3.2

AMENDED AND RESTATED

BYLAWS

OF

FRACTYL LABORATORIES INC.

(a Delaware corporation)

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(continued)

AMENDED AND RESTATED BYLAWS
OF
FRACTYL LABORATORIES INC.

ARTICLE I—CORPORATE OFFICES

1.1 REGISTERED OFFICE.

The registered office of Fractyl Laboratories Inc. (the "Corporation") shall be fixed in the Corporation's certificate of incorporation, as the same may be amended from time to time (the "certificate of incorporation").

1.2 OTHER OFFICES.

The Corporation's board of directors (the "Board") may at any time establish other offices at any place or places where the Corporation is qualified to do business.

ARTICLE II—MEETINGS OF STOCKHOLDERS

2.1 PLACE OF MEETINGS.

Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the Board. The Board may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211(a)(2) of the General Corporation Law of the State of Delaware (the "DGCL"). In the absence of any such designation or determination, stockholders' meetings shall be held at the Corporation's principal executive office.

2.2 ANNUAL MEETING.

The Board shall designate the date and time of the annual meeting. At the annual meeting, directors shall be elected and other proper business properly brought before the meeting in accordance with Section 2.4 of these bylaws may be transacted.

2.3 SPECIAL MEETING.

A special meeting of the stockholders may be called at any time by the Board, chairperson of the Board, chief executive officer or president (in the absence of a chief executive officer), but such special meetings may not be called by any other person or persons.

No business may be transacted at such special meeting other than the business specified in such notice to stockholders. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board may be held.

2.4 ADVANCE NOTICE PROCEDURES FOR BUSINESS BROUGHT BEFORE A MEETING.

(a) At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) brought before the meeting by the Corporation and specified in the notice of meeting given by or at the direction of the Board, (ii) brought before the meeting by or at the direction of the Board or (iii) otherwise properly brought before the meeting by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.4 and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with this Section 2.4 as to such business. Except for proposals properly made in accordance with Rule 14a-8 under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (as so amended and inclusive of such rules and regulations, the "Exchange Act"), and included in the notice of meeting given by or at the direction of the Board, the foregoing clause (iii) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are the matters specified in the notice of meeting given by or at the direction of the person calling the meeting pursuant to Section 2.3 of these bylaws. Stockholders seeking to nominate persons for election to the Board must comply with Section 2.5 of these bylaws, and this Section 2.4 shall not be applicable to nominations except as expressly provided in Section 2.5 of these bylaws.

(b) Without qualification, for business to be properly brought before an annual meeting by a stockholder, the stockholder must (i) provide Timely Notice (as defined below) thereof in writing and in proper form to the secretary of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.4. To be timely, a stockholder's notice must be delivered to, or mailed and received at, the principal executive offices of the Corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the first anniversary of the preceding year's annual meeting; *provided, however*, that (x) if the date of the annual meeting is more than thirty (30) days before or more than sixty (60) days after such anniversary date or (y) with respect to the first annual meeting held after the Company's initial public offering of its shares pursuant to a registration statement on Form S-1, notice by the stockholder to be timely must be so delivered, or mailed and received, not earlier than the one hundred twentieth (120th) day prior to such annual meeting and not later than the ninetieth (90th) day prior to such annual meeting or, if later, the tenth (10th) day following the day on which public disclosure of the date of such annual meeting was first made (such notice within such time periods, "Timely Notice"). In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the giving of Timely Notice as described above.

(c) To be in proper form for purposes of this Section 2.4, a stockholder's notice to the secretary of the Corporation shall set forth:

(i) As to each Proposing Person (as defined below), (A) the name and address of such Proposing Person (including, without limitation, if applicable, the name and address that appear on the Corporation's books and records) and (B) the class or series and number of shares of the Corporation that are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Proposing Person, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (the disclosures to be made pursuant to the foregoing clauses (A) and (B) are referred to as "Stockholder Information");

(ii) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including, without limitation, due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions, (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including, without limitation, any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation ("Short Interests"), (D) any rights to dividends on the shares of any class or series of the Corporation owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, (F)(x) if such Proposing Person is not a natural person, the identity of the natural person or persons associated with such Proposing Person responsible for the formulation of and decision to propose the business to be brought before the meeting (such person or persons, the "Responsible Person"), the manner in which such Responsible Person was selected, any fiduciary duties owed by such Responsible Person to the equity holders or other beneficiaries of such Proposing Person, the qualifications and background of such Responsible Person and any material interests or relationships of such Responsible Person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, and (y) if such Proposing Person is a natural person, the qualifications and background of such natural person and any material interests or relationships of such natural person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, (G) any significant equity interests or any Synthetic Equity Interests or Short Interests in any principal competitor of the Corporation held by such Proposing Persons, (H) any direct or indirect interest of such Proposing Person in any contract with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, without limitation, in any such case, any employment agreement, collective bargaining agreement or consulting agreement), (I) any pending or threatened litigation in which such Proposing Person is a party or material participant involving the Corporation or any of its officers or directors, or any affiliate of the Corporation, (J) any material transaction occurring during the prior twelve months between such Proposing Person, on the one hand, and the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation, on the other hand, (K) a summary of any material discussions regarding the business proposed to be brought before the meeting (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including, without limitation, their names) and (L) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (L) are referred to as "Disclosable Interests"); provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; and

(iii) As to each item of business that the stockholder proposes to bring before the annual meeting, (A) a reasonably brief description of the business desired to be brought before the annual meeting, the reasons for conducting such business at the annual meeting and any material interest in such business of each Proposing Person, (B) the text of the proposal or business (including, without limitation, the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the bylaws of the Corporation, the language of the proposed amendment), (C) a reasonably detailed description of all agreements, arrangements and understandings between or among any of the Proposing Persons or between or among any Proposing Person and any other person or entity (including, without limitation, their names) in connection with the proposal of such business by such stockholder, (D) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business, (E) a representation whether the Proposing Person intends or is part of a group which intends (1) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve or adopt the proposal and/or (2) otherwise to solicit proxies or votes from stockholders in support of such proposal and (F) any other information relating to such item of business that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act; provided, however, that the disclosures required by this paragraph (c) shall not include any disclosures with respect to any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner.

(d) For purposes of this Section 2.4, the term "Proposing Person" shall mean (i) the stockholder providing the notice of business proposed to be brought before an annual meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, (iii) any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for the purposes of these bylaws) of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or beneficial owner (or any of their respective affiliates or associates) is Acting in Concert (as defined below).

(e) A person shall be deemed to be "Acting in Concert" with another person for purposes of these bylaws if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or towards a common goal relating to the management, governance or control of the Corporation in parallel with, such other person where (i) each person is conscious of the other person's conduct or intent and this awareness is an element in their decision-making processes and (ii) at least one additional factor suggests that such persons intend to act in concert or in parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions, or making or soliciting invitations to act in concert or in parallel; *provided*, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, the Section 14(a) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person.

(f) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.4 shall be true and correct as of the record date for determining stockholders entitled to notice of the annual meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the secretary of the Corporation at the principal executive offices of the Corporation not later than five (5) business days after the record date for determining stockholders entitled to notice of the annual meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(g) Notwithstanding anything in these bylaws to the contrary, no business shall be conducted at an annual meeting except in accordance with this Section 2.4. The presiding officer of an annual meeting shall, if the facts warrant, determine that the business was not properly brought before the meeting in accordance with this Section 2.4, and if he or she should so determine, he or she shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted.

(h) The foregoing notice requirements of this Section 2.4 shall be deemed satisfied by a stockholder with respect to business other than a nomination if the stockholder has notified the Corporation of his, her or its intention to present a proposal at an annual meeting in compliance with applicable rules and regulations promulgated under the Exchange Act and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such annual meeting. Nothing in this Section 2.4 shall be deemed to affect the rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

(i) For purposes of these bylaws, "public disclosure" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act.

(j) Notwithstanding the foregoing provisions of this Section 2.4, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual meeting to present proposed business, such proposed business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Section 2.4, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the annual meeting and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the annual meeting.

2.5 ADVANCE NOTICE PROCEDURES FOR NOMINATIONS OF DIRECTORS.

(a) Nominations of any person for election to the Board at an annual meeting or at a special meeting (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) may be made at such meeting only (i) by or at the direction of the Board, including, without limitation, by any committee or persons appointed by the Board, or (ii) by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.5 and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with this Section 2.5 as to such nomination. The foregoing clause (ii) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board to be considered by the stockholders at an annual meeting or special meeting.

(b) Without qualification, for a stockholder to make any nomination of a person or persons for election to the Board at an annual meeting, the stockholder must (i) provide Timely Notice (as defined in Section 2.4(b) of these bylaws) thereof in writing and in proper form to the secretary of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. Without qualification, if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting, then for a stockholder to make any nomination of a person or persons for election to the Board at a special meeting, the stockholder must (i) provide timely notice thereof in writing and in proper form to the secretary of the Corporation at the principal executive offices of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. To be timely, a stockholder's notice for nominations to be made at a special meeting must be delivered to, or mailed and received at, the principal executive offices of the Corporation not earlier than the one hundred twentieth (120th) day prior to such special meeting and not later than the ninetieth (90th) day prior to such special meeting or, if later, the tenth (10th) day following the day on which public disclosure (as defined in Section 2.4(i) of these bylaws) of the date of such special meeting was first made. In no event shall any adjournment or postponement of an annual meeting or special meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described above.

(c) To be in proper form for purposes of this Section 2.5, a stockholder's notice to the secretary of the Corporation shall set forth:

(i) As to each Nominating Person (as defined below), the Stockholder Information (as defined in Section 2.4(c)(i) of these bylaws) except that for purposes of this Section 2.5, the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(c)(i);

(ii) As to each Nominating Person, any Disclosable Interests (as defined in Section 2.4(c)(ii), except that for purposes of this Section 2.5 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(c)(ii) and the disclosure in clause (L) of Section 2.4(c)(ii) shall be made with respect to the election of directors at the meeting);

(iii) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder's notice pursuant to this Section 2.5 if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14(a) under the Exchange Act (including, without limitation, such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three (3) years, and any other material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, his or her respective affiliates and associates and any other persons with whom such proposed nominee (or any of his or her respective affiliates and associates) is Acting in Concert (as defined in Section 2.4(e) of these bylaws), on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 under Regulation S-K if such Nominating Person were the "registrant" for purposes of such rule and the proposed nominee were a director or executive officer of such registrant (the disclosures to be made pursuant to the foregoing clauses (A) through (C) are referred to as "Nominee Information"), (D) a representation that the Nominating Person is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such nomination, (E) a representation whether the Nominating Person intends or is part of a group which intends (1) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to elect the nominee and/or (2) otherwise to solicit proxies or votes from stockholders in support of such nomination and (F) a completed and signed questionnaire, representation and agreement as provided in Section 2.5(g); and

(iv) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation's Corporate Governance Guidelines or (B) that could be material to a reasonable stockholder's understanding of the independence or lack of independence of such proposed nominee.

(d) For purposes of this Section 2.5, the term "Nominating Person" shall mean (i) the stockholder providing the notice of the nomination proposed to be made at the meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, (iii) any affiliate or associate of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or such beneficial owner (or any of their respective affiliates or associates) is Acting in Concert.

(e) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.5 shall be true and correct as of the record date for determining stockholders entitled to notice of the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the secretary of the Corporation at the principal executive offices of the Corporation not later than five (5) business days after the record date for determining stockholders entitled to notice of the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(f) Notwithstanding anything in these bylaws to the contrary, no person shall be eligible for election as a director of the Corporation unless nominated in accordance with this Section 2.5. The presiding officer at the meeting shall, if the facts warrant, determine that a nomination was not properly made in accordance with this Section 2.5, and if he or she should so determine, he or she shall so declare such determination to the meeting and the defective nomination shall be disregarded.

(g) To be eligible to be a nominee for election as a director of the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Section 2.5) to the secretary of the Corporation at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the secretary upon written request) and a written representation and agreement (in form provided by the secretary upon written request) that such proposed nominee (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (B) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (ii) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed to the Corporation and (iii) in such proposed nominee's individual capacity and on behalf of the stockholder (or the beneficial owner, if different) on whose behalf the nomination is made, would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(h) In addition to the requirements of this Section 2.5 with respect to any nomination proposed to be made at a meeting, each Nominating Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations.

(i) Notwithstanding the foregoing provisions of this Section 2.5, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present the proposed nomination, such proposed nomination shall not be considered, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Section 2.5, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the meeting.

2.6 NOTICE OF STOCKHOLDERS' MEETINGS.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the notice of any meeting of stockholders shall be sent or otherwise given in accordance with either Section 2.7 or Section 8.1 of these bylaws not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting. The notice shall specify the place, if any, date and hour of the meeting, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting), the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

2.7 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE.

Notice of any meeting of stockholders shall be deemed given:

(a) if mailed, when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the Corporation's records; or

(b) if electronically transmitted, as provided in Section 8.1 of these bylaws.

An affidavit of the secretary or an assistant secretary of the Corporation or of the transfer agent or any other agent of the Corporation that the notice has been given by mail or by a form of electronic transmission, as applicable, shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

2.8 QUORUM.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the holders of a majority in voting power of the capital stock issued and outstanding and entitled to vote, present in person, or by remote communication, if applicable, or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum. If, however, a quorum is not present or represented at any meeting of the stockholders, then either (a) the chairperson of the meeting or (b) a majority in voting power of the stockholders entitled to vote thereon, present in person, or by remote communication, if applicable, or represented by proxy, shall have power to adjourn the meeting from time to time in the manner provided in Section 2.9 of these bylaws until a quorum is present or represented. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally noticed.

2.9 ADJOURNED MEETING; NOTICE.

When a meeting is adjourned to another time or place, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time, place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date for determining the stockholders entitled to vote is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the adjourned meeting as of the record date for determining the stockholders entitled to notice of the adjourned meeting.

2.10 CONDUCT OF BUSINESS.

The date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting shall be announced at the meeting by the person presiding over the meeting. The Board may adopt by resolution such rules and regulations for the conduct of the meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board, the person presiding over any meeting of stockholders shall have the right and authority to convene and (for any or no reason) to recess and/or adjourn the meeting, to prescribe such rules, regulations and procedures (which need not be in writing) and to do all such acts as, in the judgment of such presiding person, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board or prescribed by the presiding person of the meeting, may include, without limitation, the following: (a) the establishment of an agenda or order of business for the meeting; (b) rules and procedures for maintaining order at the meeting and the safety of those present (including, without limitation, rules and procedures for removal of disruptive persons from the meeting); (c) limitations on attendance at or participation in the meeting to stockholders entitled to vote at the meeting, their duly authorized and constituted proxies or such other persons as the presiding person of the meeting shall determine; (d) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (e) limitations on the time allotted to questions or comments by participants. The presiding person at any meeting of stockholders, in addition to making any other determinations that may be appropriate to the conduct of the meeting (including, without limitation, determinations with respect to the administration and/or interpretation of any of the rules, regulations or procedures of the meeting, whether adopted by the Board or prescribed by the person presiding over the meeting), shall, if the facts warrant, determine and declare to the meeting that a matter or business was not properly brought before the meeting and if such presiding person should so determine, such presiding person shall so declare to the meeting and any such matter or business not properly brought before the meeting shall not be transacted or considered. Unless and to the extent determined by the Board or the person presiding over the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

2.11 VOTING.

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.13 of these bylaws, subject to Section 217 (relating to voting rights of fiduciaries, pledgors and joint owners of stock) and Section 218 (relating to voting trusts and other voting agreements) of the DGCL.

Except as may be otherwise provided in the certificate of incorporation or these bylaws, each stockholder shall be entitled to one (1) vote for each share of capital stock held by such stockholder.

At all duly called or convened meetings of stockholders, at which a quorum is present, for the election of directors, a plurality of the votes cast shall be sufficient to elect a director. Except as otherwise provided by the certificate of incorporation, these bylaws, the rules or regulations of any stock exchange applicable to the Corporation, or applicable law or pursuant to any regulation applicable to the Corporation or its securities, all other elections and questions presented to the stockholders at a duly called or convened meeting, at which a quorum is present, shall be decided by the affirmative vote of the holders of a majority in voting power of the votes cast affirmatively or negatively (excluding abstentions) at the meeting by the holders entitled to vote thereon.

2.12 STOCKHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING.

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

2.13 RECORD DATE FOR STOCKHOLDER NOTICE; VOTING.

In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the Board may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board, and which record date shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If the Board so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix a record date, which shall not be more than sixty (60) days prior to such other action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto.

2.14 PROXIES.

Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy authorized by an instrument in writing or by a transmission permitted by law filed in accordance with the procedure established for the meeting, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212 of the DGCL. A proxy may be in the form of a telegram, cablegram or other means of electronic transmission which sets forth or is submitted with information from which it can be determined that the telegram, cablegram or other means of electronic transmission was authorized by the stockholder.

2.15 LIST OF STOCKHOLDERS ENTITLED TO VOTE.

The officer who has charge of the stock ledger of the Corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting (provided, however, if the record date for determining the stockholders entitled to vote is less than ten (10) days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the tenth day before the date of the meeting), arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. The Corporation shall not be required to include electronic mail addresses or other electronic contact information on such list. The Corporation shall not be required to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least ten (10) days prior to the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (b) during ordinary business hours, at the Corporation's principal executive office. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Except as otherwise provided by law, the stock ledger shall be the only evidence as to the identity of the stockholders entitled to vote in person or by proxy and the number of shares held by each of them, and as to the stockholders entitled to examine the list of stockholders.

2.16 POSTPONEMENT AND CANCELLATION OF MEETING.

Any previously scheduled annual or special meeting of the stockholders may be postponed, and any previously scheduled annual or special meeting of the stockholders may be canceled, by resolution of the Board upon public notice given prior to the time previously scheduled for such meeting.

2.17 INSPECTORS OF ELECTION.

Before any meeting of stockholders, the Board shall appoint an inspector or inspectors of election to act at the meeting or its adjournment or postponement and make a written report thereof. The number of inspectors shall be either one (1) or three (3). If any person appointed as inspector fails to appear or fails or refuses to act, then the chairperson of the meeting may, and upon the request of any stockholder or a stockholder's proxy shall, appoint a person to fill that vacancy. Unless otherwise required by law, inspectors may be officers, employees or agents of the Corporation. Such inspectors shall have the duties prescribed by law and shall take charge of the polls and, when the vote is completed, shall make a certificate of the result of the vote taken and of such other facts as may be required by law. The inspectors of election shall perform their duties impartially, in good faith, to the best of their ability and as expeditiously as is practical. If there are three (3) inspectors of election, the decision, act or certificate of a majority is effective in all respects as the decision, act or certificate of all. Any report or certificate made by the inspectors of election is prima facie evidence of the facts stated therein.

ARTICLE III—DIRECTORS

3.1 POWERS.

Subject to the provisions of the DGCL and any limitations in the certificate of incorporation relating to action required to be approved by the stockholders or by the outstanding shares, the business and affairs of the Corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board.

3.2 NUMBER OF DIRECTORS.

The authorized number of directors shall be determined from time to time by resolution of the Board, provided the Board shall consist of at least one (1) member. No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

3.3 ELECTION, QUALIFICATION AND TERM OF OFFICE OF DIRECTORS.

Except as provided in Section 3.4 of these bylaws, each director, including, without limitation, a director elected to fill a vacancy, shall hold office until the expiration of the term for which elected and until such director's successor is elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws. The certificate of incorporation or these bylaws may prescribe other qualifications for directors.

If so provided in the certificate of incorporation, the directors of the Corporation shall be divided into three (3) classes.

3.4 RESIGNATION AND VACANCIES.

Any director may resign at any time upon notice given in writing or by electronic transmission to the Corporation at its principal office or to the chairperson of the Board, the chief executive officer, the president or the secretary. When one or more directors so resigns and the resignation is effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in this section in the filling of other vacancies.

Unless otherwise provided in the certificate of incorporation or these bylaws, vacancies and newly created directorships resulting from any increase in the authorized number of directors shall, unless the Board determines by resolution that any such vacancies or newly created directorships shall be filled by stockholders, be filled only by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. Any director elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been elected and qualified. A vacancy in the Board shall be deemed to exist under these bylaws in the case of the death, removal or resignation of any director.

3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE.

The Board may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board, or any committee designated by the Board, may participate in a meeting of the Board, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting pursuant to this bylaw shall constitute presence in person at the meeting.

3.6 REGULAR MEETINGS.

Regular meetings of the Board may be held without notice at such time and at such place as shall from time to time be determined by the Board; provided that any director who is absent when such determination is made shall be given notice of the determination. A regular meeting of the Board may be held without notice immediately after and at the same place as the annual meeting of stockholders.

3.7 SPECIAL MEETINGS; NOTICE.

Special meetings of the Board for any purpose or purposes may be called at any time by the chairperson of the Board, the chief executive officer, the president, the secretary or a majority of the authorized number of directors.

Notice of the time and place of special meetings shall be:

(a) delivered personally by hand, by courier or by telephone;

(b) sent by United States first-class mail, postage prepaid;

(c) sent by facsimile; or

(d) sent by electronic mail,

directed to each director at that director's address, telephone number, facsimile number or electronic mail address, as the case may be, as shown on the Corporation's records.

If the notice is (a) delivered personally by hand, by courier or by telephone, (b) sent by facsimile or (c) sent by electronic mail, it shall be delivered or sent at least twenty-four (24) hours before the time of the holding of the meeting. If the notice is sent by United States mail, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. Any oral notice may be communicated to the director. The notice need not specify the place of the meeting (if the meeting is to be held at the Corporation's principal executive office) nor the purpose of the meeting.

3.8 QUORUM.

The greater of (a) a majority of the directors at any time in office and (b) one-third of the number of directors established by the Board pursuant to Section 3.2 of these bylaws shall constitute a quorum of the Board for the transaction of business. The vote of a majority of the directors present at any meeting at which a quorum is present shall be the act of the Board, except as may be otherwise specifically provided by statute, the certificate of incorporation or these bylaws. If a quorum is not present at any meeting of the Board, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

3.9 BOARD ACTION BY CONSENT WITHOUT A MEETING.

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board, or of any committee thereof, may be taken without a meeting if all members of the Board or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

3.10 FEES AND COMPENSATION OF DIRECTORS.

Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board shall have the authority to fix the compensation of directors.

3.11 REMOVAL OF DIRECTORS.

Subject to the rights of the holders of the shares of any series of Preferred Stock, the Board or any individual director may be removed from office only for cause and only by the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon.

ARTICLE IV—COMMITTEES

4.1 COMMITTEES OF DIRECTORS.

The Board may designate one (1) or more committees, each committee to consist of one (1) or more of the directors of the Corporation. The Board may designate one (1) or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board or in these bylaws, shall have and may exercise all the powers and authority of the Board in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (a) approve or adopt, or recommend to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval, or (b) adopt, amend or repeal any bylaw of the Corporation.

4.2 COMMITTEE MINUTES.

Each committee shall keep regular minutes of its meetings and report the same to the Board when required.

4.3 MEETINGS AND ACTION OF COMMITTEES.

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of:

(a) Section 3.5 of these bylaws (place of meetings and meetings by telephone);

(b) Section 3.6 of these bylaws (regular meetings);

(c) Section 3.7 of these bylaws (special meetings and notice);

(d) Section 3.8 of these bylaws (quorum);

(e) Section 7.12 of these bylaws (waiver of notice); and

(f) Section 3.9 of these bylaws (action without a meeting),

with such changes in the context of those bylaws as are necessary to substitute the committee and its members for the Board and its members. *However*:

(i) the time of regular meetings of committees may be determined either by resolution of the Board or by resolution of the committee;

(ii) special meetings of committees may also be called by resolution of the Board; and

(iii) notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board may adopt rules for the government of any committee not inconsistent with the provisions of these bylaws.

ARTICLE V—OFFICERS

5.1 OFFICERS.

The officers of the Corporation shall be a president and a secretary. The Corporation may also have, at the discretion of the Board, a chairperson of the Board, a vice chairperson of the Board, a chief executive officer, a chief financial officer or treasurer, one (1) or more vice presidents, one (1) or more assistant vice presidents, one (1) or more assistant treasurers, one (1) or more assistant secretaries, and any such other officers as may be appointed in accordance with the provisions of these bylaws. Any number of offices may be held by the same person.

5.2 APPOINTMENT OF OFFICERS.

The Board shall appoint the officers of the Corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws, subject to the rights, if any, of an officer under any contract of employment.

5.3 SUBORDINATE OFFICERS.

The Board may appoint, or empower the chief executive officer or, in the absence of a chief executive officer, the president, to appoint, such other officers and agents as the business of the Corporation may require. Each of such officers and agents shall hold office for such period, have such authority, and perform such duties as are provided in these bylaws or as the Board may from time to time determine.

5.4 REMOVAL AND RESIGNATION OF OFFICERS.

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by the Board at any regular or special meeting of the Board or, except in the case of an officer chosen by the Board, by any officer upon whom such power of removal may be conferred by the Board.

Any officer may resign at any time by giving written notice to the Corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice. Unless otherwise specified in the notice of resignation, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the Corporation under any contract to which the officer is a party.

5.5 VACANCIES IN OFFICES.

Any vacancy occurring in any office of the Corporation shall be filled by the Board or as provided in Section 5.3 of these bylaws.

5.6 REPRESENTATION OF SHARES OF OTHER CORPORATIONS.

The chairperson of the Board, the president, any vice president, the treasurer, the secretary or assistant secretary of this Corporation, or any other person authorized by the Board or the president or a vice president, is authorized to vote, represent and exercise on behalf of this Corporation all rights incident to any and all securities of any other entity or entities standing in the name of this Corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

5.7 AUTHORITY AND DUTIES OF OFFICERS.

All officers of the Corporation shall respectively have such authority and perform such duties in the management of the business of the Corporation as may be designated from time to time by the Board and, to the extent not so provided, as generally pertain to their respective offices, subject to the control of the Board.

ARTICLE VI—RECORDS AND REPORTS

6.1 MAINTENANCE OF RECORDS.

The Corporation shall, either at its principal executive office or at such place or places as designated by the Board, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these bylaws as amended to date, accounting books and other records.

ARTICLE VII—GENERAL MATTERS

7.1 EXECUTION OF CORPORATE CONTRACTS AND INSTRUMENTS.

The Board, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the Corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

7.2 STOCK CERTIFICATES; PARTLY PAID SHARES.

The shares of the Corporation shall be represented by certificates or shall be uncertificated. Certificates for the shares of stock, if any, shall be in such form as is consistent with the certificate of incorporation and applicable law. Every holder of stock represented by a certificate shall be entitled to have a certificate signed by, or in the name of the Corporation by the chairperson or vice-chairperson of the Board, or the president or vice-president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary of the Corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he were such officer, transfer agent or registrar at the date of issue.

The Corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate issued to represent any such partly paid shares, or upon the books and records of the Corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the Corporation shall declare a dividend upon partly paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

7.3 SPECIAL DESIGNATION ON CERTIFICATES.

If the Corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock; *provided, however*, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

7.4 LOST CERTIFICATES.

Except as provided in this Section 7.4, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the Corporation and cancelled at the same time. The Corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner’s legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

7.5 CONSTRUCTION; DEFINITIONS.

Unless the context requires otherwise, the general provisions, rules of construction and definitions in the DGCL shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term “person” includes both a corporation and a natural person.

7.6 DIVIDENDS.

The Board, subject to any restrictions contained in either (a) the DGCL or (b) the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property or in shares of the Corporation’s capital stock.

The Board may set apart out of any of the funds of the Corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the Corporation, and meeting contingencies.

7.7 FISCAL YEAR.

The fiscal year of the Corporation shall be fixed by resolution of the Board and may be changed by the Board.

7.8 SEAL.

The Corporation may adopt a corporate seal, which shall be adopted and which may be altered by the Board. The Corporation may use the corporate seal by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

7.9 TRANSFER OF STOCK.

Shares of the Corporation shall be transferable in the manner prescribed by law and in these bylaws. Shares of stock of the Corporation shall be transferred on the books of the Corporation only by the holder of record thereof or by such holder’s attorney duly authorized in writing, upon surrender to the Corporation of the certificate or certificates representing such shares endorsed by the appropriate person or persons (or by delivery of duly executed instructions with respect to uncertificated shares), with such evidence of the authenticity of such endorsement or execution, transfer, authorization and other matters as the Corporation may reasonably require, and accompanied by all necessary stock transfer stamps. No transfer of stock shall be valid as against the Corporation for any purpose until it shall have been entered in the stock records of the Corporation by an entry showing the names of the persons from and to whom it was transferred.

7.10 STOCK TRANSFER AGREEMENTS.

The Corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the Corporation to restrict the transfer of shares of stock of the Corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

7.11 REGISTERED STOCKHOLDERS.

The Corporation:

(a) shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner;

(b) shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares; and

(c) shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

7.12 WAIVER OF NOTICE.

Whenever notice is required to be given under any provision of the DGCL, the certificate of incorporation or these bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the certificate of incorporation or these bylaws.

ARTICLE VIII—NOTICE BY ELECTRONIC TRANSMISSION

8.1 NOTICE BY ELECTRONIC TRANSMISSION.

Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the certificate of incorporation or these bylaws, any notice to stockholders given by the Corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the Corporation. Any such consent shall be deemed revoked if:

(a) the Corporation is unable to deliver by electronic transmission two (2) consecutive notices given by the Corporation in accordance with such consent; and

(b) such inability becomes known to the secretary or an assistant secretary of the Corporation or to the transfer agent, or other person responsible for the giving of notice.

However, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

Any notice given pursuant to the preceding paragraph shall be deemed given:

(a) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice;

(b) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;

(c) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (i) such posting and (ii) the giving of such separate notice; and

(d) if by any other form of electronic transmission, when directed to the stockholder.

An affidavit of the secretary or an assistant secretary of the Corporation or of the transfer agent or other agent of the Corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

8.2 DEFINITION OF ELECTRONIC TRANSMISSION.

For the purposes of these bylaws, an "electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

ARTICLE IX—INDEMNIFICATION AND ADVANCEMENT

9.1 ACTIONS, SUITS AND PROCEEDINGS OTHER THAN BY OR IN THE RIGHT OF THE CORPORATION.

The Corporation shall indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation) by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the Corporation, or, while a director or officer of the Corporation, is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including, without limitation, any employee benefit plan) (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974), and amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

9.2 ACTIONS OR SUITS BY OR IN THE RIGHT OF THE CORPORATION.

The Corporation shall indemnify any Indemnitee who was or is a party to or threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that Indemnitee is or was, or has agreed to become, a director or officer of the Corporation, or, while a director or officer of the Corporation, is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including, without limitation, any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including, without limitation, attorneys' fees) actually and reasonably incurred by or on behalf of Indemnitee in connection with such action, suit or proceeding and any appeal therefrom, if Indemnitee acted in good faith and in a manner which Indemnitee reasonably believed to be in, or not opposed to, the best interests of the Corporation, except that no indemnification shall be made under this Section 9.2 in respect of any claim, issue or matter as to which Indemnitee shall have been adjudged to be liable to the Corporation, unless, and only to the extent, that the Court of Chancery of Delaware or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of such liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for such expenses (including, without limitation, attorneys' fees) which the Court of Chancery of Delaware or such other court shall deem proper.

9.3 INDEMNIFICATION FOR EXPENSES OF SUCCESSFUL PARTY.

Notwithstanding any other provisions of this Article IX, to the extent that an Indemnitee has been successful, on the merits or otherwise, in defense of any action, suit or proceeding referred to in Sections 9.1 and 9.2 of these bylaws, or in defense of any claim, issue or matter therein, or on appeal from any such action, suit or proceeding, Indemnitee shall be indemnified against all expenses (including, without limitation, attorneys' fees) actually and reasonably incurred by or on behalf of Indemnitee in connection therewith. Without limiting the foregoing, if any action, suit or proceeding is disposed of, on the merits or otherwise (including, without limitation, a disposition without prejudice), without (a) the disposition being adverse to Indemnitee, (b) an adjudication that Indemnitee was liable to the Corporation, (c) a plea of guilty or nolo contendere by Indemnitee, (d) an adjudication that Indemnitee did not act in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation and (e) with respect to any criminal proceeding, an adjudication that Indemnitee had reasonable cause to believe his or her conduct was unlawful, Indemnitee shall be considered for the purposes hereof to have been wholly successful with respect thereto.

9.4 NOTIFICATION AND DEFENSE OF CLAIM.

As a condition precedent to an Indemnitee's right to be indemnified, such Indemnitee must notify the Corporation in writing as soon as practicable of any action, suit, proceeding or investigation involving such Indemnitee for which indemnity will or could be sought. With respect to any action, suit, proceeding or investigation of which the Corporation is so notified, the Corporation will be entitled to participate therein at its own expense and/or to assume the defense thereof at its own expense, with legal counsel reasonably acceptable to Indemnitee. After notice from the Corporation to Indemnitee of its election so to assume such defense, the Corporation shall not be liable to Indemnitee for any legal or other expenses subsequently incurred by Indemnitee in connection with such action, suit, proceeding or investigation, other than as provided below in this Section 9.4. Indemnitee shall have the right to employ his or her own counsel in connection with such action, suit, proceeding or investigation, but the fees and expenses of such counsel incurred after notice from the Corporation of its assumption of the defense thereof shall be at the expense of Indemnitee unless (a) the employment of counsel by Indemnitee has been authorized by the Corporation, (b) counsel to Indemnitee shall have reasonably concluded that there may be a conflict of interest or position on any significant issue between the Corporation and Indemnitee in the conduct of the defense of such action, suit, proceeding or investigation or (c) the Corporation shall not in fact have employed counsel to assume the defense of such action, suit, proceeding or investigation, in each of which cases the fees and expenses of counsel for Indemnitee shall be at the expense of the Corporation, except as otherwise expressly provided by this Article IX. The Corporation shall not be entitled, without the consent of Indemnitee, to assume the defense of any claim brought by or in the right of the Corporation or as to which counsel for Indemnitee shall have reasonably made the conclusion provided for in clause (b) above. The Corporation shall not be required to indemnify Indemnitee under this Article IX for any amounts paid in settlement of any action, suit, proceeding or investigation effected without its written consent. The Corporation shall not settle any action, suit, proceeding or investigation in any manner which would impose any penalty or limitation on Indemnitee without Indemnitee's written consent. Neither the Corporation nor Indemnitee will unreasonably withhold or delay its consent to any proposed settlement.

9.5 ADVANCE OF EXPENSES.

Subject to the provisions of Sections 9.4 and 9.6 of these bylaws, in the event of any threatened or pending action, suit, proceeding or investigation of which the Corporation receives notice under this Article IX, any expenses (including, without limitation, attorneys' fees) incurred by or on behalf of Indemnitee in defending an action, suit, proceeding or investigation or any appeal therefrom shall be paid by the Corporation in advance of the final disposition of such matter; *provided*, *however*, that the payment of such expenses incurred by or on behalf of Indemnitee in advance of the final disposition of such matter shall be made only upon receipt of an undertaking by or on behalf of Indemnitee to repay all amounts so advanced in the event that it shall ultimately be determined by final judicial decision from which there is no further right to appeal that Indemnitee is not entitled to be indemnified by the Corporation as authorized in this Article IX; and provided further that no such advancement of expenses shall be made under this Article IX if it is determined (in the manner described in Section 9.6 of these bylaws) that (a) Indemnitee did not act in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the Corporation, or (b) with respect to any criminal action or proceeding, Indemnitee had reasonable cause to believe his or her conduct was unlawful. Such undertaking shall be accepted without reference to the financial ability of Indemnitee to make such repayment.

9.6 PROCEDURE FOR INDEMNIFICATION AND ADVANCEMENT OF EXPENSES.

In order to obtain indemnification or advancement of expenses pursuant to Section 9.1, 9.2, 9.3 or 9.5 of these bylaws, an Indemnitee shall submit to the Corporation a written request. Any such advancement of expenses shall be made promptly, and in any event within 60 days after receipt by the Corporation of the written request of Indemnitee, unless (a) the Corporation has assumed the defense pursuant to Section 9.4 of these bylaws (and none of the circumstances described in Section 9.4 of these bylaws that would nonetheless entitle the Indemnitee to indemnification for the fees and expenses of separate counsel have occurred) or (b) the Corporation determines within such 60-day period that Indemnitee did not meet the applicable standard of conduct set forth in Section 9.1, 9.2 or 9.5 of these bylaws, as the case may be. Any such indemnification, unless ordered by a court, shall be made with respect to requests under Section 9.1 or 9.2 of these bylaws only as authorized in the specific case upon a determination by the Corporation that the indemnification of Indemnitee is proper because Indemnitee has met the applicable standard of conduct set forth in Section 9.1 or 9.2 of these bylaws, as the case may be. Such determination shall be made in each instance (a) by a majority vote of the directors of the Corporation consisting of persons who are not at that time parties to the action, suit or proceeding in question ("disinterested directors"), whether or not a quorum, (b) by a committee of disinterested directors designated by majority vote of disinterested directors, whether or not a quorum, (c) if there are no disinterested directors, or if the disinterested directors so direct, by independent legal counsel (who may, to the extent permitted by law, be regular legal counsel to the Corporation) in a written opinion or (d) by the stockholders of the Corporation.

9.7 REMEDIES.

The right to indemnification or advancement of expenses as granted by this Article IX shall be enforceable by Indemnitee in any court of competent jurisdiction. Neither the failure of the Corporation to have made a determination prior to the commencement of such action that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation pursuant to Section 9.6 of these bylaws that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct. In any suit brought by Indemnitee to enforce a right to indemnification or advancement, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall have the burden of proving that Indemnitee is not entitled to be indemnified, or to such advancement of expenses, under this Article IX. Indemnitee's expenses (including, without limitation, attorneys' fees) reasonably incurred in connection with successfully establishing Indemnitee's right to indemnification or advancement, in whole or in part, in any such proceeding shall also be indemnified by the Corporation to the fullest extent permitted by law. Notwithstanding the foregoing, in any suit brought by Indemnitee to enforce a right to indemnification hereunder it shall be a defense that the Indemnitee has not met any applicable standard for indemnification set forth in the DGCL.

9.8 LIMITATIONS.

Notwithstanding anything to the contrary in this Article IX, except as set forth in Section 9.7 of these bylaws, the Corporation shall not indemnify an Indemnitee pursuant to this Article IX in connection with a proceeding (or part thereof) initiated by such Indemnitee unless the initiation thereof was approved by the Board. Notwithstanding anything to the contrary in this Article IX, the Corporation shall not indemnify (or advance expenses to) an Indemnitee to the extent such Indemnitee is reimbursed (or advanced expenses) from the proceeds of insurance, and in the event the Corporation makes any indemnification (or advancement) payments to an Indemnitee and such Indemnitee is subsequently reimbursed from the proceeds of insurance, such Indemnitee shall promptly refund indemnification (or advancement) payments to the Corporation to the extent of such insurance reimbursement.

9.9 SUBSEQUENT AMENDMENT.

No amendment, termination or repeal of this Article IX or of the relevant provisions of the DGCL or any other applicable laws shall adversely affect or diminish in any way the rights of any Indemnitee to indemnification or advancement of expenses under the provisions hereof with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the final adoption of such amendment, termination or repeal.

9.10 OTHER RIGHTS.

The indemnification and advancement of expenses provided by this Article IX shall not be deemed exclusive of any other rights to which an Indemnitee seeking indemnification or advancement of expenses may be entitled under any law (common or statutory), agreement or vote of stockholders or disinterested directors or otherwise, both as to action in Indemnitee's official capacity and as to action in any other capacity while holding office for the Corporation, and shall continue as to an Indemnitee who has ceased to be a director or officer, and shall inure to the benefit of the estate, heirs, executors and administrators of Indemnitee. Nothing contained in this Article IX shall be deemed to prohibit, and the Corporation is specifically authorized to enter into, agreements with officers and directors providing indemnification and advancement rights and procedures different from those set forth in this Article IX. In addition, the Corporation may, to the extent authorized from time to time by the Board, grant indemnification and advancement rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article IX.

9.11 PARTIAL INDEMNIFICATION.

If an Indemnitee is entitled under any provision of this Article IX to indemnification by the Corporation for some or a portion of the expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974) or amounts paid in settlement actually and reasonably incurred by or on behalf of Indemnitee in connection with any action, suit, proceeding or investigation and any appeal therefrom but not, however, for the total amount thereof, the Corporation shall nevertheless indemnify Indemnitee for the portion of such expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974) or amounts paid in settlement to which Indemnitee is entitled.

9.12 INSURANCE.

The Corporation may purchase and maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise (including, without limitation, any employee benefit plan) against any expense, liability or loss incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

9.13 SAVINGS CLAUSE.

If this Article IX or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each Indemnitee as to any expenses (including, without limitation, attorneys' fees), liabilities, losses, judgments, fines (including, without limitation, excise taxes and penalties arising under the Employee Retirement Income Security Act of 1974) and amounts paid in settlement in connection with any action, suit, proceeding or investigation, whether civil, criminal or administrative, including, without limitation, an action by or in the right of the Corporation, to the fullest extent permitted by any applicable portion of this Article IX that shall not have been invalidated and to the fullest extent permitted by applicable law.

9.14 DEFINITIONS.

Terms used in this Article IX and defined in Section 145(h) and Section 145(i) of the DGCL shall have the respective meanings assigned to such terms in such Section 145(h) and Section 145(i).

ARTICLE X - AMENDMENTS.

Subject to the limitations set forth in Section 9.9 of these bylaws or the provisions of the certificate of incorporation, the Board is expressly empowered to adopt, amend or repeal the bylaws of the Corporation. The stockholders also shall have power to adopt, amend or repeal the bylaws of the Corporation; *provided, however*, that, in addition to any vote of the holders of any class or series of stock of the Corporation required by law or by the certificate of incorporation, such action by stockholders shall require the affirmative vote of the holders of at least two-thirds in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon.

FRACTYL health

NUMBER
FH

SHARES

CUSIP 000000 00 0

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE

SEE REVERSE FOR CERTAIN DEFINITIONS AND LEGENDS

This certifies that

is the record holder of

FULLY PAID AND NONASSESSABLE SHARES OF COMMON STOCK, $0.00001 PAR VALUE PER SHARE, OF

FRACTYL HEALTH, INC.

transferable on the books of the Corporation in person or by duly authorized attorney upon surrender of this Certificate properly endorsed. This Certificate is not valid until countersigned by the Transfer Agent and registered by the Registrar.

CERTIFICATE OF STOCK

WITNESS the facsimile seal of the Corporation and the facsimile signatures of its duly authorized officers.

Dated:

Harith Rajagopalan
CHIEF EXECUTIVE OFFICER

FRACTYL HEALTH, INC. CORPORATE SEAL August 30, 2010 DELAWARE

Lisa A. Davidson
CHIEF FINANCIAL OFFICER

COUNTERSIGNED AND REGISTERED:
AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC
(BROOKLYN, NY)
TRANSFER AGENT AND REGISTRAR

BY:

AUTHORIZED SIGNATURE

HEREMOP B. MC TOTE

The Corporation shall furnish without charge to each stockholder who so requests a statement of the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock of the Corporation or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Such requests shall be made to the Corporation's Secretary at the principal office of the Corporation.

KEEP THIS CERTIFICATE IN A SAFE PLACE. IF IT IS LOST, STOLEN, OR DESTROYED THE CORPORATION WILL REQUIRE A BOND INDEMNITY AS A CONDITION TO THE ISSUANCE OF A REPLACEMENT CERTIFICATE.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	–	as tenants in common
TEN ENT	–	as tenants by the entireties
JT TEN	–	as joint tenants with right of survivorship and not as tenants in common
COM PROP	–	as community property

UNIF GIFT MIN ACT – _____ Custodian _____
(Cust) (Minor)
under Uniform Gifts to Minors Act_____
(State)

UNIF TRF MIN ACT – _____ Custodian (until age _____)
(Cust)
_____ under Uniform Transfers
(Minor)
to Minors Act_____
(State)

Additional abbreviations may also be used though not in the above list.

FOR VALUE RECEIVED, _____ hereby sell(s), assign(s) and transfer(s) unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

_____
(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING ZIP CODE, OF ASSIGNEE)

_____

_____

_____ shares of the capital stock represented by within Certificate, and do hereby irrevocably constitute and appoint

_____ attorney-in-fact to transfer the said stock on the books of the within named Corporation with full power of the substitution in the premises.

Dated _____

X _____

X _____

Signature(s) Guaranteed:

NOTICE: THE SIGNATURE TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

By _____

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION, (BANKS, STOCKBROKERS, SAVINGS AND LOAN ASSOCIATIONS AND CREDIT UNIONS WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM), PURSUANT TO S.E.C. RULE 17Ad-15. GUARANTEES BY A NOTARY PUBLIC ARE NOT ACCEPTABLE. SIGNATURE GUARANTEES MUST NOT BE DATED.

Exhibit 4.2

Execution Version

FIFTH AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

THIS FIFTH AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this "**Agreement**") is made as of June 9th, 2021 by and among Fractyl Health, Inc., a Delaware corporation (the "**Company**"), and each of the investors listed on Schedule A hereto, each of which is referred to in this Agreement as an "**Investor**," and any Additional Purchaser (as defined in the Purchase Agreement) that becomes a party to this Agreement in accordance with Section 6.9 hereof.

RECITALS

WHEREAS, the Company and certain of the Investors are party to that certain Fourth Amended and Restated Investors' Rights Agreement dated as of March 4, 2020, as amended (the "**Prior Agreement**");

WHEREAS, pursuant to a Series F Preferred Stock Purchase Agreement (the "**Purchase Agreement**"), of even date herewith, by and among the Company and certain of the Investors, certain of the Investors are purchasing shares of the Company's Series F Preferred Stock (the "**Financing**");

WHEREAS, as a condition precedent to the Financing, the Company and the undersigned Investors who are party to the Prior Agreement must amend and restate the Prior Agreement in its entirety;

WHEREAS, the undersigned constitute the Requisite Investors (as defined in the Prior Agreement) and, as such, have the right pursuant to Section 6.6 of the Prior Agreement to execute and deliver this Agreement and amend and restate the Prior Agreement in the manner provided herein; and

WHEREAS, in order to induce the Company to enter into the Purchase Agreement and to induce the Investors to invest funds in the Company pursuant to the Purchase Agreement, the Investors and the Company hereby agree that this Agreement shall govern the rights of the Investors to cause the Company to register shares of Common Stock issuable to the Investors, to receive certain information from the Company, and to participate in future equity offerings by the Company, and shall govern certain other matters as set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are acknowledged, the Company and the Investors agree to amend and restate the Prior Agreement as follows:

1. Definitions. For purposes of this Agreement:

1.1 "**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such specified Person, including without limitation any general partner, managing member, officer or director of such specified Person and any venture capital fund now or hereafter existing which is controlled by one or more general partners or managing members of, or shares the same management company with, such specified Person.

1.2 "**Board**" means the Board of Directors of the Company.

1.3 "**Certificate of Incorporation**" means the Company's Amended and Restated Certificate of Incorporation, as the same may be amended or restated from time to time.

1.4 "**Common Stock**" means shares of the Company's common stock, par value $0.00001 per share.

1.5 "**Competitor**" means a person or entity engaged, directly or indirectly (including through any partnership, limited liability company, corporation, joint venture or similar arrangement (whether now existing or formed hereafter)) in the business of the Company, but shall not include (i) any financial investment firm or collective investment vehicle solely by virtue of its ownership (and/or its Affiliates' ownership) of an equity interest in any Competitor held solely for investment purposes, (ii) GV 2017, L.P. or any of its affiliated funds, solely as a result of any affiliation between such fund and Alphabet Inc. (including any Affiliate of Alphabet Inc.), (iii) Taiwania Capital Buffalo II Bioventures, LP or its Affiliates, or (iv) Lexington Insurance Company, The United States Life Insurance Company in the City of New York or their Affiliates.

1.6 "**Damages**" means any loss, damage, or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other U.S. federal or state law, insofar as such loss, damage, or liability (or any action in respect thereof) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) an omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

1.7 "**Deemed Liquidation Event**" has the meaning assigned to such term in the Certificate of Incorporation.

1.8 "**Derivative Securities**" means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

1.9 "**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.10 "**Excluded Registration**" means (i) a registration relating to the sale of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; (iv) a registration relating to a SPAC Transaction; or (v) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

1.11 "**Form S-1**" means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

1.12 "**Form S-3**" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.13 "**GAAP**" means generally accepted accounting principles in the United States.

1.14 "**Holder**" means any holder of Registrable Securities who is a party to this Agreement or any assignee thereof in accordance with Section 2.12.

1.15 "**Immediate Family Member**" means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, of a natural person referred to herein.

1.16 "**Initiating Holders**" means, collectively, Holders who properly initiate a registration request under this Agreement.

1.17 "**IPO**" means the Company's first underwritten public offering of its Common Stock under the Securities Act.

1.18 "**Key Person**" means Harith Rajagopalan, the executive officers of the Company, and each individual who performs a significant role in the development or conception of any Company Intellectual Property (as defined in the Purchase Agreement).

1.19 "**Major Investor**" means any Investor that, individually or together with such Investor's Affiliates, holds (i) at least 500,000 shares of Registrable Securities (not including any shares of Common Stock issuable or issued upon conversion of the Series D Preferred Stock, Series E Preferred Stock or Series F Preferred Stock now owned or hereafter acquired by the Investors) (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof), (ii) at least 1,300,000 shares of Registrable Securities (not including any shares of Common Stock issuable or issued upon conversion of the Series F Preferred Stock now owned or hereafter acquired by the Investors) (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof) or (iii) at least 1,000,000 shares of Registrable Securities (not including any shares of Common Stock issuable or issued upon conversion of the Series D Preferred Stock or Series E Preferred Stock) (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof).

1.20 "**New Securities**" means equity securities of the Company, whether or not currently authorized, as well as rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever that are, or may become, convertible into or exchangeable into or exercisable for such equity securities.

1.21 "**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.22 "**Preferred Director**" means any director of the Company that the holders of record of the Preferred Stock are entitled to elect pursuant to the Certificate of Incorporation.

1.23 "**Preferred Stock**" means, collectively, the Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock and Series F Preferred Stock.

1.24 "**Qualified Public Offering**" has the meaning assigned to such term in the Certificate of Incorporation.

1.25 "**Qualified SPAC Transaction**" has the meaning assigned to such term in the Certificate of Incorporation.

1.26 "**Registrable Securities**" means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock now owned or hereafter acquired by the Investors; (ii) any other shares of Common Stock acquired by the Investors after the date hereof; and (iii) any shares of Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses (i) or (ii) of this Section 1.26, provided however, that (x) any shares sold by a Person in a transaction in which such Person's rights under Section 2 hereof are not assigned shall not be deemed Registrable Securities and (y) any shares for which registration rights have terminated pursuant to Section 2.13 of this Agreement shall not be deemed Registrable Securities.

1.27 "**Registrable Securities then outstanding**" means the number of shares determined by adding the number of shares of outstanding Common Stock that are Registrable Securities and the number of shares of Common Stock issuable (directly or indirectly) pursuant to then exercisable and/or convertible securities that are Registrable Securities.

1.28 "**Requisite Investors**" means the holders of at least 60% of the then outstanding shares of Preferred Stock (voting as a single class and on an as-converted basis). Notwithstanding the foregoing, from and after a mandatory conversion of all shares of Preferred Stock into shares of Common Stock pursuant to Article FOURTH, Part C, Section 5 of the Certificate of Incorporation, "Requisite Investors" shall mean the holders of at least 60% of the then outstanding Common Stock issued upon conversion of the Preferred Stock.

1.29 "**Restricted Securities**" means the securities of the Company required to bear the legend set forth in Section 2.12(b) hereof.

1.30 "**SEC**" means the U.S. Securities and Exchange Commission.

1.31 "**SEC Rule 144**" means Rule 144 promulgated by the SEC under the Securities Act.

1.32 "**SEC Rule 145**" means Rule 145 promulgated by the SEC under the Securities Act.

1.33 "**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.34 "**Selling Expenses**" means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Section 2.6.

1.35 "**Series A Preferred Stock**" means shares of the Company's Series A Preferred Stock, par value $0.00001 per share.

1.36 "**Series B Preferred Stock**" means shares of the Company's Series B Preferred Stock, par value $0.00001 per share.

1.37 "**Series C Preferred Stock**" means shares of the Company's Series C-1 Preferred Stock, par value $0.00001 per share, together with shares of the Company's Series C-2 Preferred Stock, par value $0.00001 per share.

1.38 "**Series C-1 Preferred Stock**" means the Series C-1 Preferred Stock of the Company, par value $0.00001 per share.

1.39 "**Series C-2 Preferred Stock**" means the Series C-2 Preferred Stock of the Company, par value $0.00001 per share.

1.40 "**Series D Preferred Stock**" means shares of the Company's Series D Preferred Stock, par value $0.00001 per share.

1.41 "**Series E Preferred Stock**" means shares of the Company's Series E Preferred Stock, par value $0.00001 per share.

1.42 "**Series F Preferred Stock**" means shares of the Company's Series F Preferred Stock, par value $0.00001 per share.

1.43 "**SPAC Transaction**" means business combination involving the Company and a publicly traded special purpose acquisition company or its affiliate (a "**SPAC**"), whether by merger, consolidation, stock purchase, share exchange, asset sale or otherwise.

2. Registration Rights. The Company covenants and agrees as follows:

2.1 Demand Registration.

(a) Form S-1 Demand. If at any time after 180 days following the effective date of the registration statement for the IPO, the Company receives a request from Holders of at least 30% of the Registrable Securities then outstanding that the Company file a Form S-1 registration statement with respect to Registrable Securities then outstanding having an anticipated aggregate offering price of at least $10,000,000, then the Company shall (i) within 10 days after the date such request is given, give notice thereof (the "**Demand Notice**") to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within 60 days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within 20 days of the date the Demand Notice is given, and in each case, subject to the limitations of Section 2.1(c) and Section 2.3.

(b) Form S-3 Demand. If at any time when it is eligible to use a Form S-3 registration statement, the Company receives a request from Holders of the Preferred Stock then outstanding that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price of at least $2,000,000, then the Company shall (i) within 10 days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within 45 days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within 20 days of the date the Demand Notice is given, and in each case, subject to the limitations of Section 2.1(c) and Section 2.3.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Section 2.1 a certificate signed by the Company's chief executive officer stating that in the good faith judgment of the Board it would be materially detrimental to the Company and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise would be required to remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company shall have the right to defer taking action with respect to such filing, and any time periods with respect to filing or effectiveness thereof shall be tolled correspondingly, for a period of not more than 60 days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than once in any 12-month period; and provided further that the Company shall not register any securities for its own account or that of any other stockholder during such 60-day period other than an Excluded Registration.

(d) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(a) (i) during the period that is 60 days before the Company's good faith estimate of the date of filing of, and ending on a date that is 180 days after the effective date of, a Company-initiated registration, provided, that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; (ii) after the Company has effected two registrations pursuant to Section 2.1(a); or (iii) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(b) (i) during the period that is 30 days before the Company's good faith estimate of the date of filing of, and ending on a date that is 90 days after the effective date of, a Company-initiated registration, provided, that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; or (ii) if the Company has effected two registrations pursuant to Section 2.1(b) within the 12-month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Section 2.1(d) until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration, elect not to pay the registration expenses therefor, and forfeit their right to one demand registration statement pursuant to Section 2.6, in which case such withdrawn registration statement shall be counted as "effected" for purposes of this Section 2.1(d).

2.2 Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) any of its securities under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within 20 days after such notice is given by the Company, the Company shall, subject to the provisions of Section 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 before the effectiveness of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with Section 2.6.

2.3 Underwriting Requirements.

(a) If, pursuant to Section 2.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Section 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority in interest of the Initiating Holders. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this Section 2.3, if the managing underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders of Registrable Securities that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each Holder or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required to include any of the Holders' Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares. Notwithstanding the foregoing, in no event shall the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering. For purposes of the provision in this Section 2.3(b) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

(c) For purposes of Section 2.1, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provision in Section 2.3(a), fewer than 50% of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.4 Obligations of the Company. Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to 120 days or, if earlier, until the distribution contemplated in the registration statement has been completed; provided, however, that (i) such 120-day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of Common Stock (or other securities) of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such 120-day period shall be extended for up to 180 days in the aggregate, if necessary, to keep the registration statement effective until all such Registrable Securities are sold;

(b) prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate the disposition of Registrable Securities owned by them;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter(s) of such offering;

(f) use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on the New York Stock Exchange, the Nasdaq Global Select Market or the Nasdaq Global Market and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) promptly make available for inspection by the selling Holders, any underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of the Company, and cause the Company's officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed; and

(j) after such registration statement becomes effective, notify each Holder of Registrable Securities covered by such registration statement of any request by the SEC that the Company amend or supplement such registration statement or prospectus.

2.5 Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as shall be reasonably required to effect the registration of such Holder's Registrable Securities.

2.6 Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2, including all registration, filing, and qualification fees; printers' and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements, of one counsel for the selling Holders ("**Selling Holder Counsel**"), shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities agree to forfeit their right to one registration pursuant to Section 2.1(a) or Section 2.1(b), as the case may be; provided further, however, that if at the time of such withdrawal, the Holders have learned of a material adverse change in the condition, business, or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information, then the Holders shall not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to Section 2.1(a) or Section 2.1(b), as the case may be. All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 Delay of Registration. No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.8 Indemnification. If any Registrable Securities are included in a registration statement under this Section 2:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel and accountants for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(a) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company (which consent shall not be unreasonably delayed, conditioned or withheld), nor shall the Company be liable for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished expressly for the use in connection with such registration by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based solely upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration; and each such selling Holder will pay to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(b) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably delayed, conditioned or withheld; and provided further that in no event shall the aggregate amounts payable by any Holder by way of any indemnity or contribution under Section 2.8(b) and 2.8(d) exceed the net proceeds from the offering received by such Holder, except in the case of fraud or willful misconduct by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 2.8 of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.8, give the indemnifying party notice of the commencement thereof. The indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party within a reasonable time of the commencement of any such action shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.8, only if that such failure materially prejudices the indemnifying party's ability to defend such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.8.

(d) To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Section 2.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case, notwithstanding the fact that this Section 2.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Section 2.8, then, and in each such case, such parties will contribute to the aggregate losses, claims, damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided, however, that, in any such case, (x) no such Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (y) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and provided further that in no event shall a Holder's liability pursuant to this Section 2.8(d), when combined with the amounts paid or payable by such Holder pursuant to Section 2.8(b), exceed the net proceeds from the offering received by such Holder, except in the case of willful misconduct or fraud by such Holder.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control.

(f) Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Section 2.8 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement.

2.9 Reports Under Exchange Act. With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company shall:

(a) make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effectiveness of the registration statement filed by the Company for the IPO;

(b) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after 90 days after the effective date of the registration statement filed by the Company for the IPO), the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company; and (iii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.10 Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Requisite Investors, enter into any agreement with any holder or prospective holder of any securities of the Company which would allow such holder or prospective holder to (a) include such securities in any registration unless under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the number of the Registrable Securities of the Holders that are included or (b) demand registration of any securities held by such holder or prospective holder.

2.11 "Market Stand off" Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter (in connection with the IPO) or the surviving public company of a SPAC Transaction (in connection with a SPAC Transaction), during the period commencing on the (A) date of the final prospectus relating to the IPO or (B) the closing of the SPAC Transaction and ending on the date specified by the Company and the managing underwriter (with respect to the IPO) or the Company and the surviving public company of a SPAC Transaction (for a SPAC Transaction) (such period not to exceed 180 days, which period may be extended upon the request of the managing underwriter, to the extent required by any Financial Industry Regulatory Authority rules, for an additional period of up to 20 days if the Company issues or proposes to issue an earnings or other public release within 20 days of the expiration of the 180-day lockup period), (i) lend, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right, or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock (or, in the case of a SPAC Transaction, any shares of the common stock or other share capital of the SPAC or other entity that is the surviving parent company of a SPAC Transaction or any securities convertible into or exercisable or exchangeable, directly or indirectly, for such common stock or other share capital) held immediately prior to the effectiveness of the registration statement for such offering, or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (i) or (ii) of this Section 2.11 is to be settled by delivery of Common Stock, the common stock or share capital of the SPAC or other entity that is the surviving parent company of a SPAC Transaction, as applicable, or other securities, in cash, or otherwise. The foregoing provisions of this Section 2.11 (x) shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and (y) shall only be applicable to the Holders if all officers, directors and holders of more than one percent of the outstanding Common Stock are subject to the same restrictions and are subject to similar agreements. The underwriters in connection with the IPO and the surviving public company of a SPAC Transaction in connection with a SPAC Transaction are intended third-party beneficiaries of this Section 2.11 and shall have the right, power, and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters (in connection with the IPO) or the surviving public company of a SPAC Transaction (in connection with a SPAC Transaction) that are consistent with this Section 2.11 or that are necessary to give further effect thereto. In the event that any directors or officers, or any holders of more than one percent of the Company's outstanding capital stock, are released from their lock-up agreements, the Company will use commercially reasonable efforts to cause the underwriters to release the Investors from their lock-up agreements on a pro rata basis with the Company's directors or officers, or any holders of more than one percent of the Company's outstanding capital stock.

2.12 Restrictions on Transfer.

(a) The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement.

(b) Each certificate or instrument representing (i) the Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, shall (unless otherwise permitted by the provisions of Section 2.12(c)) be stamped or otherwise imprinted with a legend substantially in the following form:

> THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.
>
> THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Section 2.12.

(c) The holder of each certificate representing Restricted Securities, by acceptance thereof, agrees to comply in all respects with the provisions of this Section 2. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144 or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; provided that each transferee agrees in writing to be subject to the terms of this Section 2.12. Each certificate or instrument evidencing the Restricted Securities transferred as above provided shall bear, except if such transfer is made pursuant to SEC Rule 144, the appropriate restrictive legend set forth in Section 2.12(b), except that such certificate shall not bear such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

2.13 Termination of Registration Rights.

(a) No Holder shall be entitled to exercise any right provided for in this Section 2 after, and all such rights shall terminate upon the earlier to occur of (i) the closing of a Deemed Liquidation Event where proceeds are distributed in accordance with Section 2.1 and 2.2 of Article (IV) (C) of the Certificate of Incorporation and (ii) the fifth anniversary of the IPO or the closing of a Qualified SPAC Transaction.

(b) The rights set forth in this Section 2 shall terminate as to any shares of Registrable Securities when such shares have been (i) registered under the Securities Act pursuant to an effective registration statement filed thereunder and disposed of in accordance with the registration statement covering them or (ii) publicly sold pursuant to SEC Rule 144.

3. Information Rights.

3.1 Delivery of Financial Statements. The Company shall deliver to each Major Investor, provided that the Board has not reasonably determined that such Major Investor is a Competitor of the Company:

(a) as soon as practicable, but in any event within 150 days following the end of each fiscal year of the Company, (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year and a comparison between (x) the actual amounts as of and for such fiscal year and (y) the comparable amounts for the prior year and as included in the Budget (as defined in Section 3.1(e)) for such year, with an explanation of any material differences between such amounts and a schedule as to the sources and applications of funds for such year, and (iii) a statement of stockholders' equity as of the end of such year, all such financial statements to be in reasonable detail, prepared in accordance with GAAP and audited and certified by independent public accountants of nationally or regionally recognized standing selected by the Company;

(b) as soon as practicable, but in any event within 30 days after the end of each month, unaudited statements of income and of cash flows for such month and the fiscal year to date, and an unaudited balance sheet and a statement of stockholders' equity as of the end of such month and the fiscal year to date, all prepared in accordance with GAAP applied on a consistent basis (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(c) as soon as practicable, but in any event within 30 days after the end of each month, a statement showing the number of shares of each class and series of capital stock and securities convertible into or exercisable for shares of capital stock outstanding at the end of the period (including warrants), the Common Stock issuable upon conversion or exercise of any outstanding securities convertible or exercisable for Common Stock and the exchange ratio or exercise price applicable thereto, and the number of shares of issued stock options and stock options not yet issued but reserved for issuance, if any, and debt holders as of each month end, if any, all in sufficient detail as to permit such Major Investor to calculate its respective percentage equity ownership in the Company, and certified by the chief financial officer or chief executive officer of the Company as being true, complete, and correct;

(d) as soon as practicable, but in any event within 45 days of the end of each fiscal year, a budget and business plan for the next fiscal year (collectively, the "**Budget**"), approved by the Board, including the approval of all but one of the Preferred Directors (such approval, the "**Preferred Director Consent**"), prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company;

(e) with respect to the financial statements called for in Section 3.1(a) and Section 3.1(b), an instrument executed by the chief financial officer and chief executive officer of the Company certifying that such financial statements were prepared in accordance with GAAP consistently applied with prior practice for earlier periods (except as otherwise set forth in Section 3.1(b)) and fairly present the financial condition of the Company and its results of operation for the periods specified therein; and

(f) such other information relating to the financial condition, business, prospects, or corporate affairs of the Company as any Major Investor may from time to time reasonably request; provided, however, that the Company shall not be obligated under this Section 3.1 to provide information (i) that the Company reasonably determines in good faith to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in a form acceptable to the Company) or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this Section 3.1 to the contrary, the Company may cease providing the information set forth in this Section 3.1 during the 60-day period before the Company's good-faith estimate of the date of filing of a registration statement if it reasonably concludes it must do so to comply with the SEC rules applicable to such registration statement and related offering; provided that the Company's covenants under this Section 3.1 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective.

3.2 Inspection. The Company shall permit each Major Investor (provided that the Board has not reasonably determined that such Major Investor is a Competitor of the Company), at such Major Investor's expense, to visit and inspect the Company's properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; provided, however, that the Company shall not be obligated pursuant to this Section 3.2 to provide access to any information that it reasonably and in good faith considers to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in a form acceptable to the Company) or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

3.3 Termination of Information and Inspection Covenants. The covenants set forth in Section 3.1 and Section 3.2 shall terminate and be of no further force or effect (i) immediately prior to the consummation of the IPO or a SPAC Transaction, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon the closing of a Deemed Liquidation Event where proceeds are distributed in accordance with Section 2.1 and 2.2 of Article (IV)(C) of the Certificate of Incorporation, whichever event occurs first.

3.4 Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor its investment in the Company) any confidential information obtained from the Company pursuant to the terms of this Agreement (including notice of the Company's intention to file a registration statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Section 3.4 by such Investor), (b) is or has been independently developed or conceived by the Investor without use of the Company's confidential information, or (c) is or has been made known or disclosed to the Investor by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor may disclose confidential information (i) to its attorneys, accountants, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, provided that (y) such prospective purchaser agrees to be bound by the provisions of this Section 3.4 and (z) the Board has not reasonably determined that such prospective purchaser is a Competitor of the Company; (iii) to any existing or prospective Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Investor in the ordinary course of business, provided that such Investor informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law, provided that, if permitted by law, the Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

4. Rights to Future Stock Issuances.

4.1 Right of First Offer. Subject to the terms and conditions of this Section 4 and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to each Investor that is an "accredited investor" (as defined Rule 501(a) under the Securities Act). An Investor shall be entitled to apportion the right of first offer hereby granted to it among itself and its Affiliates in such proportions as it deems appropriate. For the avoidance of doubt, an Investor that is not an "accredited investor" shall not have any right to be offered or to purchase New Securities from the Company pursuant to this Section 4.

(a) The Company shall give notice (the "**Offer Notice**") to each Investor, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By notification to the Company within 20 days after the Offer Notice is given, each Investor may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held, by such Investor bears to the total Common Stock of the Company then outstanding (assuming full conversion and/or exercise, as applicable, of all Preferred Stock and other Derivative Securities). At the expiration of such 20-day period, the Company shall promptly notify each Investor that elects to purchase or acquire all the shares available to it (each, a "**Fully Exercising Investor**") of any other Investor's failure to do likewise. During the 10-day period commencing after the Company has given such notice, each Fully Exercising Investor may, by giving notice to the Company, elect to purchase or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Investors were entitled to subscribe but that were not subscribed for by the Investors which is equal to the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of Preferred Stock and any other Derivative Securities then held, by such Fully Exercising Investor bears to the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Preferred Stock and any other Derivative Securities then held, by all Fully Exercising Investors who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this Section 4.1(b) shall occur within the later of 90 days of the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Section 4.1(c).

(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Section 4.1(b), the Company may, during the 90-day period following the expiration of the periods provided in Section 4.1(b), offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within 30 days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Investors in accordance with this Section 4.1.

(d) The right of first offer in this Section 4.1 shall not be applicable to (i) Exempted Securities (as defined in the Certificate of Incorporation); (ii) shares of Common Stock issued in the IPO or a SPAC Transaction; or (iii) the issuance of shares of Series F Preferred Stock to Additional Purchasers (as defined in the Purchase Agreement) pursuant to the Purchase Agreement.

4.2 Termination. The covenants set forth in Section 4.1 shall terminate and be of no further force or effect with respect to all Investors upon the earlier of (a) immediately prior to the consummation of a Qualified Public Offering or a Qualified SPAC Transaction, and (b) the closing of a Deemed Liquidation Event where proceeds are distributed in accordance with Section 2.1 and 2.2 of Article (IV)(C) of the Certificate of Incorporation. The parties agree that in the event of a waiver of any of the provisions of Section 4 with respect to an issuance of New Securities and the subsequent purchase by any Investor (a "**Participating Investor**") of any portion of such New Securities, then all other Investors shall have the right to purchase a portion of the New Securities equal to the product obtained by (A) such Investor's *pro rata* share calculated in accordance with Section 4 multiplied by (B) the quotient obtained by (x) the number of shares purchased by the Participating Investor divided by (y) the maximum number of shares that could have been purchased by such Participating Investor pursuant to its *pro rata* share calculated in accordance with Section 4; provided, for clarity, that if there is more than one Participating Investor, then the larger fraction obtained pursuant to (B) above shall apply.

5. Additional Covenants.

5.1 Insurance. The Company shall maintain, from financially sound and reputable insurers (i) Directors and Officers liability insurance in an amount and on terms and conditions satisfactory to the Board and (ii) term "key person" insurance on Harith Rajagopalan in the amount of $3,000,000, and will use commercially reasonable efforts to cause such insurance policies to be maintained until such time as the Board determines that such insurance should be discontinued. The key person policy shall name the Company as loss payee and neither policy shall be cancelable by the Company without prior approval by the Board including the Preferred Director Consent.

5.2 Employee Agreements. Except as approved by the Board, including the Preferred Director Consent, the Company will cause (i) each person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant or independent contractor) with access to confidential information and/or trade secrets to enter into a nondisclosure and proprietary rights assignment agreement substantially in the form attached hereto as Exhibit A and (ii) each Key Person to enter into a one-year noncompetition and nonsolicitation agreement substantially in the form attached hereto as Exhibit B. In addition, the Company shall not amend, modify, terminate, waive, or otherwise alter, in whole or in part, any of the above-referenced agreements or any restricted stock agreement between the Company and any employee, without the consent of the Board, including the Preferred Director Consent.

5.3 Employee Stock. Unless otherwise approved by the Board, including the Preferred Director Consent, all future employees and consultants of the Company who purchase, receive options to purchase, or receive awards of shares of the Company's capital stock after the date hereof in connection with their employment or engagement by the Company shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares over a four-year period, with the first 25% of such shares vesting following 12 months of continued employment or service, and the remaining shares vesting in equal monthly installments over the following 36 months, and (ii) a market stand-off provision substantially similar to that in Section 2.11. In addition, unless otherwise approved by the Board, including the Preferred Director Consent, the Company shall retain a "right of first refusal" on employee transfers until the Company's IPO and shall have the right to repurchase unvested shares at cost upon termination of employment of a holder of restricted stock.

5.4 Board Matters. Unless otherwise determined by the vote of a majority of the directors then in office, the Board shall meet at least quarterly in accordance with an agreed-upon schedule. The Company shall reimburse the directors for all reasonable and documented out-of-pocket expenses incurred (with travel expenses reimbursed consistent with the Company's travel policy) in connection with the Company's business and attending meetings of the Board.

5.5 Successor Indemnification. If the Company or any of its successors or assignees consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger, then to the extent necessary, proper provision shall be made so that the successors and assignees of the Company assume the obligations of the Company with respect to indemnification of members of the Board as in effect immediately before such transaction, whether such obligations are contained in the Company's By-Laws, the Certificate of Incorporation, separate agreement, or elsewhere, as the case may be.

5.6 Indemnification Matters. The Company hereby acknowledges that one (1) or more of the directors nominated to serve on the Board by the Investors (each a "**Fund Director**") may have certain rights to indemnification, advancement of expenses and/or insurance provided by one or more of the Investors and certain of their affiliates (collectively, the "**Fund Indemnitors**"). The Company hereby agrees (a) that it is the indemnitor of first resort (i.e., its obligations to any such Fund Director are primary and any obligation of the Fund Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such Fund Director are secondary), (b) that it shall be required to advance the full amount of expenses incurred by such Fund Director and shall be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement by or on behalf of any such Fund Director to the extent legally permitted and as required by the Certificate of Incorporation or Bylaws of the Company (or any agreement between the Company and such Fund Director), without regard to any rights such Fund Director may have against the Fund Indemnitors, and, (c) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of any such Fund Director with respect to any claim for which such Fund Director has sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such Fund Director against the Company.

5.7 Termination of Covenants. The covenants set forth in this Section 5, except for Section 5.5, shall terminate and be of no further force or effect upon the earliest of (a) immediately prior to the consummation of the IPO or a SPAC Transaction, (b) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, and (c) upon the closing of a Deemed Liquidation Event where proceeds are distributed in accordance with Section 2.1 and 2.2 of Article (IV)(C) of the Certificate of Incorporation.

6. Miscellaneous.

6.1 Successors and Assigns. The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (i) is an Affiliate of a Holder; (ii) is a Holder's Immediate Family Member or trust for the benefit of an individual Holder or one or more of such Holder's Immediate Family Members; or (iii) after such transfer, holds at least 1,300,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations, and other recapitalizations); provided, however, that (x) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (y) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of Section 2.11. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the holdings of a transferee (1) that is an Affiliate or stockholder of a Holder; (2) who is a Holder's Immediate Family Member; or (3) that is a trust for the benefit of an individual Holder or such Holder's Immediate Family Member shall be aggregated together and with those of the transferring Holder; provided further that all transferees who would not qualify individually for assignment of rights shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices, or taking any action under this Agreement. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, regardless of the laws that might otherwise govern under applicable principles of conflicts of law.

6.3 Counterparts; Facsimile. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, the Uniform Electronic Transactions Act or other applicable law) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given and received upon the earliest of (a) actual receipt, (b) personal delivery to the party to be notified, (c) when sent, if sent by confirmed facsimile during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next business day, (d) five days after having been sent by registered or certified mail, return receipt requested, postage prepaid, and (e) one business day after deposit with an internationally recognized overnight courier (it being agreed that DHL and FedEx are internationally recognized overnight couriers), freight prepaid, specifying next business day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their facsimile number or address as set forth herein, on a signature page hereto or on Schedule A hereto, or to such facsimile number or address as subsequently modified by written notice given in accordance with this Section 6.5. If notice is given to the Company, it shall be sent to Fractyl Health, Inc., 17 Hartwell Avenue, Lexington, MA 02421, Attention: Chief Executive Officer, facsimile: +1 781-902-8800, and a copy (which shall not constitute notice) shall also be sent to Latham & Watkins LLP, 200 Clarendon Street, 27th Floor, Boston, MA 02116, Attn: Johan V. Brigham, Esq. and Evan G. Smith, Esq., Facsimile: (617) 948-6001.

6.6 Amendments and Waivers. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) only with the written consent of the Company and the Requisite Investors; provided, that the Company may in its sole discretion waive compliance with Section 2.12(c) (and the Company's failure to object promptly in writing after notification of a proposed assignment allegedly in violation of Section 2.12(c) shall be deemed to be a waiver); provided further, that any amendment, waiver, discharge or termination of Section 2.11 that adversely affects the rights of, or imposes additional obligations on, any applicable Investor shall require the prior written consent of such Investor; and provided further, that, unless otherwise stated herein, any provision hereof may be waived by any waiving party on such party's own behalf, without the consent of any other party. Any amendment or waiver effected in accordance with this paragraph shall be binding upon each holder of any Registrable Securities then outstanding, each future holder of all such Registrable Securities, the Company, and all of their respective successors and permitted assigns. Notwithstanding the foregoing, this Agreement may not be amended or terminated and the observance of any term hereof may not be waived with respect to any Investor without the written consent of such Investor, unless such amendment, termination, or waiver applies to all Investors in the same fashion (it being agreed that, subject to compliance with the last sentence of Section 4.2, a waiver of the provisions of Section 4 with respect to a particular transaction shall be deemed to apply to all Investors in the same fashion if such waiver does so by its terms, notwithstanding the fact that certain Investors may nonetheless, by agreement with the Company, purchase securities in such transaction). Section 1.5 (including this sentence in this Section 6.6) may not be amended without the prior written consent of Taiwania with respect to the fact that neither Taiwania nor its Affiliates shall be deemed a Competitor. For so long as at least 1,000,000 shares of Series F Preferred Stock (as adjusted for any stock split, stock dividend, combination, recapitalization or the like) remain outstanding, Section 1.19(iii) (including this sentence in this Section 6.6) may not be amended without the prior written consent of the holders of a majority of the then outstanding Series F Preferred Stock. The Company shall give prompt notice of any amendment or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, termination, or waiver. Any amendment, termination, or waiver effected in accordance with this Section 6.6 shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 Severability. In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 Aggregation of Stock. All shares of Registrable Securities held or acquired by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement and such Affiliated persons may apportion such rights as among themselves in any manner they deem appropriate.

6.9 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company's Series F Preferred Stock after the date hereof, the purchasers of such shares of Series F Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter shall be deemed an "Investor" for all purposes hereunder. No action or consent by the Investors shall be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an "Investor" hereunder.

6.10 Entire Agreement. This Agreement (including any exhibits and schedules hereto), the Certificate of Incorporation and the other Transaction Agreements (as defined in the Purchase Agreement) and the agreements, documents and instruments referenced therein constitute the full and entire understanding and agreement between the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties (including, without limitation, the Prior Agreement) are expressly canceled.

6.11 Submission to Jurisdiction; Waiver of Jury Trial. The parties hereto (a) hereby irrevocably and unconditionally submit to the jurisdiction of the U.S. federal and state courts of the State of Delaware and to the jurisdiction of the United States District Court for the District of Delaware for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the U.S. federal and state courts located within the geographic boundaries of the State of Delaware or the United States District Court for the District of Delaware, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the District of Delaware or any court of the State of Delaware having subject matter jurisdiction. THE PARTIES HERETO EACH HEREBY WAIVE ANY RIGHT TO A TRIAL BY JURY IN ANY ACTION, SUIT OR OTHER LEGAL PROCEEDING ARISING UNDER OR RELATING TO ANY PROVISION OF THIS AGREEMENT.

6.12 Delays or Omissions. No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor shall it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

6.13 Acknowledgment. The Company acknowledges that at least some of the Investors are in the business of venture capital and private equity investing and therefore review the business plans and related proprietary information of many enterprises, including enterprises which may have products or services which are adverse to or compete directly or indirectly with those of the Company. Nothing in this Agreement shall otherwise preclude or in any way restrict any Investor or any Affiliate thereof from investing or participating in any particular enterprise whether or not such enterprise has products or services which are adverse to or compete, directly or indirectly, with those of the Company.

6.14 Right to Conduct Activities. The Company acknowledges that certain of the Investors are in the business of venture capital or private equity investing and therefore review the business plans and related proprietary information of many enterprises, including enterprises which may have products or services which compete directly or indirectly with those of the Company. Nothing in this Agreement shall preclude or in any way restrict the Investors from investing or participating in any particular enterprise whether or not such enterprise has products or services which compete with those of the Company. The Company hereby agrees and acknowledges that such Investors (together with their Affiliates) invests in numerous portfolio companies, some of which may be deemed competitive with the Company's business (as currently conducted or as currently propose to be conducted). The Company hereby agrees that, to the extent permitted under applicable law, such Investors shall not be liable to the Company for any claim arising out of, or based upon, (i) the investment by such Investors in any entity competitive with the Company, or (ii) actions taken by any partner, officer or other representative of such Investors to assist any such competitive company, whether or not such action was taken as a member of the board of directors of such competitive company or otherwise, and whether or not such action has a detrimental effect on the Company; provided, however, that the foregoing shall not relieve (x) any of the Investors from liability associated with the unauthorized disclosure of the Company's confidential information obtained pursuant to this Agreement, or (y) any director or officer of the Company from any liability associated with his or her fiduciary duties to the Company.

[signature page follows]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

COMPANY:

FRACTYL HEALTH, INC.

By: /s/ Harith Rajagopalan
Name: Harith Rajagopalan
Title: Chief Executive Officer

INVESTORS:

SPARVIERO LP

By: M28 Capital Fund GP LLC, its General Partner

By: /s/ Marc Elia
Name: Marc Elia
Title: Sole Member

M28 CAPITAL MASTER FUND LP

By: M28 Capital Fund GP LLC, its General Partner

By: /s/ Marc Elia
Name: Marc Elia
Title: Sole Member

INVESTORS:

MAVERICK GROWTH INVESTMENTS, LLC

By: Cohasset VC, Ltd., its sole member

By: /s/ Trevor Wiessmann
Name: Trevor Wiessmann
Title: Authorized Signatory

MAVERICK FUND USA, LTD.

By: /s/ Ginessa Avila
Name: Ginessa Avila
Title: Authorized Signatory

MAVERICK HOLDINGS L, LLC

By: /s/ Ginessa Avila
Name: Ginessa Avila
Title: Authorized Signatory

INVESTORS:

POPULATION HEALTH CAPITAL PARTNERS II, L.P.

By: Population Health Capital Partners II GP, LLC, its General Partner

By: /s/ Chris Cox
Name: Christopher Cox
Title: Managing Member

INVESTORS:

683 CAPITAL PARTNERS, LP

By: /s/ Joseph Patt
Name: Joseph Patt
Title: Member of the General Partner

INVESTORS:

AIG DECO FUND I, L.P.

By: AIG Asset Management (U.S.), LLC as its investment advisor

By: /s/ Matthew Laermer
Name: Matthew Laermer
Title: Managing Director

INVESTORS:

BESSEMER VENTURE PARTNERS VII L.P.

BESSEMER VENTURE PARTNERS VII INSTITUTIONAL L.P.

BVP VII SPECIAL OPPORTUNITY FUND L.P.

By: Deer VII & Co. L.P.
their General Partner

By: Deer VII & Co. Ltd.
its General Partner

By: /s/ Scott Ring
Scott Ring, General Counsel

INVESTORS:

CATALIO NEXUS FUND II, LP

By: Catalio Nexus GP II, LLC, its General Partner

By: /s/ R. Jacob Vogelstein
Name: R. Jacob Vogelstein
Title: Manager and Member

INVESTORS:

CCM RAIDER RED HOLDINGS LLC

By: /s/ Richard Romine
Name: Richard Romine
Title: Manager

INVESTORS:

CVF, LLC

By: /s/ Richard H. Robb
Name: Richard H. Robb
Title: Managing Member

INVESTORS:

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII, L.L.C.,
its General Partner

By: /s/ Lisa A. Kraeutler
Lisa A. Kraeutler
Its: Attorney-in-fact

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII, L.L.C.,
its General Partner

By: /s/ Lisa A. Kraeutler
Lisa A. Kraeutler
Its: Attorney-in-fact

INVESTORS:

EMERGENT MEDICAL PARTNERS II, L.P.

By: EMP Partners II, LLC
its General Partner

By: /s/ Robert Brownell
Name: Robert Brownell
Title: Managing Director

INVESTORS:

GENERAL CATALYST GROUP V, L.P.

By: General Catalyst Partners V, L.P.
its General Partner

By: General Catalyst GP V, LLC
its General Partner

By: /s/ Chris McCain
Name: Christopher McCain
Title: Chief Legal Officer

GC ENTREPRENEURS FUND V, L.P.

By: General Catalyst Partners V, L.P.
its General Partner

By: General Catalyst GP V, LLC
its General Partner

By: /s/ Chris McCain
Name: Christopher McCain
Title: Chief Legal Officer

INVESTORS:

MITHRIL LP

By: Mithril GP LLC, its General Partner

By: /s/ Ajay Royan
Name: Ajay Royan
Title: Manager

INVESTORS:

MITHRIL II LP

By: Mithril II GP LP, its General Partner

By: Mithril II UGP LLC, its General Partner

By: /s/ Ajay Royan
Name: Ajay Royan
Title: Managing Member

INVESTORS:

TAIWANIA CAPITAL BUFFALO II BIOVENTURES, LP

By its investment manager Taiwania Capital Management Corporation

By: /s/ Jerome Shen
Name: Jerome Shen, PhD
Title: Managing Director & Head of Life Science Investments

INVESTORS:

TRUE VENTURES SELECT III, LP

By: True Venture Partners Select III, LLC its General Partner

By: /s/ James G. Stewart
Name: James G. Stewart
Title: COO

TRUE VENTURES V, LP, for itself and as Nominee for True Ventures V-A, LP

By: True Venture Partners V, LLC
Its: General Partner

By: /s/ James G. Stewart
Name: James G. Stewart
Title: COO

TRUE VENTURES SELECT IV, LP

By: True Venture Partners Select IV, LLC its General Partner

By: /s/ James G. Stewart
Name: James G. Stewart
Title: COO

INVESTORS:

/s/ Jay Caplan /s/ Elena Caplan
Jay Caplan and Elena Caplan, JTWROS

/s/ Jay Caplan
Jay Caplan

INVESTORS:

/s/ Harith Rajagopalan
Harith Rajagopalan

INVESTORS:

HARITH RAJAGOPALAN 2016 IRREVOCABLE TRUST, DATED SEPTEMBER 24, 2016

By: /s/ Sharmeel K. Wasan
Name: Sharmeel K. Wasan
Title: Trustee

By: /s/ Harith Rajagopalan
Name: Harith Rajagopalan
Title: Investment Trustee

Schedule A

Investors

Taiwania Capital Buffalo II Bioventures, LP
Address:
E-mail:
Telephone:
Fascimile:

AIG Deco Fund I, L.P.
Address:
E-mail:
Telephone:
Fascimile:

Mithril LP
Address:
E-mail:
Telephone:
Fascimile:

Domain Partners VIII, L.P.
Address:
E-mail:
Telephone:
Fascimile:

DP VIII Associates, L.P.
Address:
E-mail:
Telephone:
Fascimile:

General Catalyst Group V, L.P.
Address:
E-mail:
Telephone:
Fascimile:

GC Entrepreneurs Fund V, L.P.
Address:
E-mail:
Telephone:
Fascimile:

Bessemer Venture Partners VII L.P.
Address:
E-mail:
Telephone:
Fascimile:

Bessemer Venture Partners VII Institutional L.P.
Address:
E-mail:
Telephone:
Fascimile:

BVP VII Special Opportunity Fund L.P.
Address:
E-mail:
Telephone:
Fascimile:

Greene Family Trust
Address:
E-mail:
Telephone:
Fascimile:

David B. Musket
Address:
E-mail:
Telephone:
Fascimile:

Jay Caplan and Elena Caplan, JTWROS
Address:
E-mail:
Telephone:
Fascimile:

Sushma Raghavan
Address:
E-mail:
Telephone:
Fascimile:

Sruti Raghavan
Address:
E-mail:
Telephone:
Fascimile:

Harith Rajagopalan
Address:
E-mail:
Telephone:
Fascimile:

Mina Hsiang
Address:
E-mail:
Telephone:
Fascimile:

Hydrazine Capital, L.P.
Address:
E-mail:
Telephone:
Fascimile:

Emergent Medical Partners II, L.P.
Address:
E-mail:
Telephone:
Fascimile:

Belmont Navy Bio Investment, LLC
Address:
E-mail:
Telephone:
Fascimile:

Deerfield Private Design Fund III, L.P.
Address:
E-mail:
Telephone:
Fascimile:

Marshfield Advisers, LLC
Address:
E-mail:
Telephone:
Fascimile:

CVF, LLC
Address:
E-mail:
Telephone:
Fascimile:

GV 2017, L.P.
Address:
E-mail:
Telephone:
Fascimile:

Fahud Investments Limited
Address:
E-mail:
Telephone:
Fascimile:

CCM Raider Red Holdings LLC
Address:
E-mail:
Telephone:
Fascimile:

CDIB Venture Capital Corporation
Address:
E-mail:
Telephone:
Fascimile:

Yonghua International II L.P.
Address:
E-mail:
Telephone:
Fascimile:

Yongyun (Cayman) Limited
Address:
E-mail:
Telephone:
Fascimile:

Catalio Nexus Fund II, LLC
Address:
E-mail:
Telephone:
Fascimile:

Sinorich Capital Consulting Corp.
GV 2019, L.P.
Address:
E-mail:
Telephone:
Fascimile:

Mithril II LP
Address:
E-mail:
Telephone:
Fascimile:

True Ventures Select III, LP
True Ventures Select IV, LP
True Ventures V, LP
Address:
E-mail:
Telephone:
Fascimile:

Sparviero LP
M28 Capital Master Fund LP
Address:
E-mail:
Telephone:
Fascimile:

Maverick Growth Investments, LLC
Maverick Fund USA, Ltd.
Maverick Holdings L, LLC
Address:
E-mail:
Telephone:
Fascimile:

Population Health Capital Partners II, L.P.
Address:
E-mail:
Telephone:
Fascimile:

683 Capital Partners, LP
Address:
E-mail:
Telephone:
Fascimile:

Exhibit A

Form of Nondisclosure and Proprietary Rights Assignment Agreement

Exhibit B

Form of Noncompetition and Nonsolicitation Agreement

Exhibit 10.1

[***] Certain information in this document has been excluded pursuant to Regulation S-K, Item 601(b)(10). Such excluded information is not material and would likely cause competitive harm to the registrant if publicly disclosed.

CREDIT AGREEMENT AND GUARANTY

dated as of September 7, 2023

by and among

FRACTYL HEALTH, INC.,
as the Borrower,

THE SUBSIDIARY GUARANTORS FROM TIME TO TIME PARTY HERETO,
as the Guarantors,

THE LENDERS FROM TIME TO TIME PARTY HERETO
as the

Lenders,

and

SYMBIOTIC CAPITAL AGENCY LLC,
as the Administrative Agent

U.S. $65,000,000

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SCHEDULES AND EXHIBITS

CREDIT AGREEMENT AND GUARANTY

CREDIT AGREEMENT AND GUARANTY, dated as of September 7, 2023 (this "***Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), certain Subsidiaries of the Borrower that may be required to provide Guarantees from time to time hereunder (each a "***Guarantor***" and collectively, the "***Guarantors***"), SYMBIOTIC CAPITAL OPPORTUNITIES HOLDING, L.P., as a lender ("***Symbiotic***"), the other lenders from time to time party hereto (together with Symbiotic, each a "***Lender***" and collectively, the "***Lenders***"), and SYMBIOTIC CAPITAL AGENCY LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

WITNESSETH:

WHEREAS, the Borrower has requested that the Lenders provide a first priority senior secured term loan facility to the Borrower in an aggregate principal amount of $45,000,000, consisting of (a) a $30,000,000 Tranche A Term Loan to be extended on the Closing Date and (b) a $15,000,000 Tranche B Term Loan to be extended on the Applicable Funding Date for the Tranche B Term Loan;

WHEREAS, subject to the terms and conditions set forth herein, the parties hereto agree that incremental term loans up to $20,000,000 for a Tranche C Term Loan may be extended subject to Administrative Agent's prior written consent in its sole discretion on the Applicable Funding Date for the Tranche C Term Loan; and

WHEREAS, the Lenders are willing, on the terms and subject to the conditions set forth herein, to provide such first priority senior secured term loan facility.

NOW, THEREFORE, the parties hereto agree as follows:

SECTION 1.
DEFINITIONS

1.01 Certain Defined Terms. As used herein, the following terms have the following respective meanings:

"***510(k) Clearance***" means the FDA's written authorization to market a medical device pursuant to a premarket notification submitted under Section 510 of the Federal Food, Drug, and Cosmetic Act.

"***Account Control Agreement Completion Date***" has the meaning assigned to it in **Section 8.18(a)**.

"***Acquisition***" means any transaction, or any series of related transactions, by which any Person (for purposes of this definition, an "***acquirer***") directly or indirectly, by means of amalgamation, consolidation, merger, purchase of assets, purchase of Equity Interests, or otherwise, (a) acquires all or substantially all of the assets of any other Person, (b) acquires (including via exclusively licensing) an entire business line, product or unit or division of any other Person, (c) with respect to any other Person that is managed or governed by a Board, acquires

control of Equity Interests of such other Person representing more than fifty percent (50%) of the ordinary voting power (determined on a fully-diluted basis) for the election of directors of such Person's Board, (d) acquires control of more than fifty percent (50%) of the Equity Interests in any other Person (determined on a fully-diluted basis) that is not managed by a Board or (e) the acquisition of, or the exclusive right to use, make, have made, import, export, develop, sell or offer for sale, any product, product line or Intellectual Property of or from any other Person, excluding, for the avoidance of doubt, any Permitted Licenses.

"***Administrative Agent***" has the meaning set forth in the preamble hereto.

"***Affected Financial Institution***" means (a) any EEA Financial Institution or (b) any U.K. Financial Institution.

"***Affiliate***" means, with respect to a specified Person, another Person that directly, or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with the Person specified.

"***Agreement***" has the meaning set forth in the preamble hereto.

"***Allocable Amount***" has the meaning set forth in **Section 13.10(b)**.

"***Anti-Terrorism Laws***" means any laws relating to terrorism or money laundering, including, (a) the Money Laundering Control Act of 1986 (e.g., 18 U.S.C. §§ 1956 and 1957), (b) the Bank Secrecy Act of 1970 (e.g., 31 U.S.C. §§ 5311 – 5330), as amended by the Patriot Act, (c) the laws, regulations and Executive Orders administered by the United States Department of the Treasury's Office of Foreign Assets Control ("***OFAC***"), (d) the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 and implementing regulations by the United States Department of the Treasury, (e) the laws, regulations and orders administered by the UK Office of Financial Sanctions Implementation, (f) any law prohibiting or directed against terrorist activities or the financing of terrorist activities (e.g., 18 U.S.C. §§ 2339A and 2339B), or (g) any similar laws enacted in the United States, China, France, the United Kingdom, the European Union, or any other jurisdictions in which the parties to this agreement operate, and all other present and future legal requirements of any Governmental Authority governing, addressing, relating to, or attempting to eliminate, terrorist acts and acts of war.

"***Applicable Availability Period***" means the Tranche B Availability Period or the Tranche C Availability Period, as the context may require.

"***Applicable Commitment***" means the Tranche A Commitment, the Tranche B Commitment or, the Tranche C Commitment, as the context may require.

"***Applicable Funding Condition***" means the Tranche A Funding Condition or the Tranche B Funding Condition, as the context may require.

"***Applicable Funding Date***" means, with respect to each Applicable Commitment, the date on or prior to the expiration of the Applicable Availability Period for such Applicable Commitment on which all conditions precedent set forth in **Section 6.02** are satisfied or waived in accordance with the terms of this Agreement.

"***Applicable Law***" means, as to any Person, all applicable Laws binding upon such Person or to which such a Person is subject, and, for the avoidance of doubt, shall include FATCA.

"***Arm's Length Transaction***" means, with respect to any transaction, the terms of such transaction shall not be less favorable to the Borrower or any of its Subsidiaries than commercially reasonable terms that would be obtained in a transaction with a Person that is an unrelated third party.

"***Asset Sale***" has the meaning set forth in **Section 9.09**.

"***Assignment and Assumption***" means an assignment and assumption entered into by a Lender and an assignee of such Lender substantially in the form of **Exhibit F**, or such other form as agreed by the Administrative Agent.

"***ASU***" has the meaning set forth in **Section 1.02**.

"***Bail-In Action***" means the exercise of any Write-Down and Conversion Powers by the applicable EEA Resolution Authority or U.K. Resolution Authority in respect of any liability of an Affected Financial Institution.

"***Bail-In Legislation***" means (a) with respect to any EEA Member Country implementing Article 55 of Directive 2014/59/EU of the European Parliament and of the Council of the European Union, the implementing law, regulation, rule or requirement for such EEA Member Country from time to time that is described in the EU Bail-In Legislation Schedule; and (b) with respect to the United Kingdom, Part I of the United Kingdom Banking Act 2009 (as amended from time to time) and any other law, regulation or rule applicable in the United Kingdom relating to the resolution of unsound or failing banks, investment firms or other financial institutions or their Affiliates (other than through liquidation, administration or other insolvency proceedings).

"***Bankruptcy Code***" means Title 11 of the United States Code entitled "Bankruptcy."

"***Beneficial Ownership Certification***" means a certification regarding beneficial ownership as required by the Beneficial Ownership Regulation.

"***Beneficial Ownership Regulation***" means 31 C.F.R. § 1010.230.

"***Benefit Plan***" means any employee benefit plan as defined in Section 3(3) of ERISA (whether governed by the laws of the United States or otherwise) maintained for employees of any Obligor or Subsidiary thereof, or any such plan to which any Obligor or Subsidiary thereof is required to contribute on behalf of any of its employees or otherwise has any obligation or liability, contingent or otherwise.

"***Board***" means (1) with respect to a corporation, the board of directors of the corporation or such directors or committee serving a similar function; (2) with respect to a limited liability company, the board of managers of the company or such managers or committee serving a similar function; (3) with respect to a partnership, the board of directors of the general partner of the partnership; and (4) with respect to any other Person, the managers, directors, trustees, board or committee of such Person or its owners serving a similar function.

"***Board Observer***" has the meaning set forth in **Section 8.17(a)**.

"***Borrower***" has the meaning set forth in the preamble hereto.

"***Borrower Party***" has the meaning set forth in **Section 14.03(b)**.

"***Borrowing***" means the borrowing of the Loans on each Applicable Funding Date.

"***Borrowing Notice***" means a written notice substantially in the form of **Exhibit B**.

"***Bringdown Date***" means each date on which a Loan is advanced pursuant to **Section 2.01** and any other date the representations and warranties under the Loan Documents are required to be made (other than the Closing Date).

"***Business Day***" means a day (other than a Saturday or Sunday) on which commercial banks are not authorized or required to close in New York, Massachusetts, or California.

"***Business IT Assets***" has the meaning set forth in **Section 7.05(b)(iv)**.

"***Capital Lease Obligations***" means, as to any Person, the obligations of such Person to pay rent or other amounts under a lease of (or other agreement conveying the right to use) any property by such Person as lessee, which obligations are required to be classified and accounted for as a capitalized lease or finance lease on a balance sheet of such Person under GAAP, and for the purposes of this Agreement, the amount of such obligations shall be the capitalized amount thereof, determined in accordance with GAAP. Notwithstanding any other provision contained herein, the amount of any Indebtedness under GAAP with respect to Capital Lease Obligations shall be determined in accordance with **Section 1.02**.

"***Casualty Event***" means the damage, destruction or condemnation, as the case may be, of property of the Borrower or any of its Subsidiaries in excess of $1,000,000.

"***Catalio***" means Catalio Structured Opportunities AIV I LP.

"***Change of Control***" means (a) an event or series of events (i) as a result of which any "person" or "group" (as such terms are used in Sections 13(d) and 14(d) of the Securities Act, but excluding any such person or its Subsidiaries, and any Person acting in its capacity as trustee, agent or other fiduciary or administrator of any Title IV Plan) becomes the "beneficial owner" (as defined in Rules 13d-3 and 13d-5 under the Exchange Act, except that a person or group shall be deemed to have "beneficial ownership" of all Equity Interests that such person or group has the right to acquire, whether such right is exercisable immediately or only after the passage of time (such right, an "option right")), directly or indirectly, of fifty percent (50%) or more of the Equity Interests of the Borrower entitled to vote for members of the Board of the Borrower on a fully-diluted basis (and taking into account all such Equity Interests that such person or group has the right to acquire pursuant to any option right); (ii) as a result of which, during any period of twelve (12) consecutive months, a majority of the members of the Board of the Borrower cease to be composed of individuals (x) who were members of such Board on the first day of such period, y) who were elected, appointed or nominated to such Board, or whose election, appointment or nomination to such Board was approved, by individuals referred to in **clause (x)** above constituting at the time

of such election, appointment, nomination or approval at least a majority of such Board or equivalent governing body or (z) who were elected, appointed or nominated to such Board, or whose election, appointment or nomination to such Board was approved, by individuals referred to in **clauses (x)** and **(y)** above constituting at the time of such election, appointment, nomination or approval at least a majority of such Board; (iii) that results in the sale of all or substantially all of the assets or businesses of the Borrower and its Subsidiaries, taken as a whole; and (iv) except to the extent permitted by this Agreement, that results in the Borrower's failure to own, directly or indirectly, beneficially and of record, one-hundred percent (100%) of all issued and outstanding Equity Interests of each Subsidiary Guarantor, or (b) any "change of control", "fundamental change", "make-whole fundamental change" or any comparable term under and as defined in any indenture governing any Material Indebtedness has occurred.

"***Claims***" means (and includes) any claim, demand, complaint, investigation, grievance, action, application, suit, cause of action, order, charge, indictment, prosecution, judgement or other similar process, whether in respect of assessments or reassessments, debts, liabilities, expenses, costs, damages or losses, contingent or otherwise, whether liquidated or unliquidated, matured or unmatured, disputed or undisputed, contractual, legal or equitable, including loss of value, professional fees, including fees and disbursements of legal counsel, and all costs incurred in investigating or pursuing any of the foregoing or any proceeding relating to any of the foregoing.

"***Closing Date***" means the date on which the conditions precedent specified in **Section 6.01** are satisfied (or waived in accordance with **Section 14.04**).

"***Code***" means the Internal Revenue Code of 1986, as amended.

"***Collateral***" means any real, personal and mixed property (including Equity Interests), whether tangible or intangible, in which Liens are granted or purported to be granted to the Administrative Agent as security for the Obligations under any Loan Document on or after the Closing Date, including future acquired or created assets or property (or collectively, all such real, personal and mixed property, as the context may require); provided that "Collateral" shall not include any Excluded Assets (as defined in the Security Agreement).

"***Commitment***" means, with respect to each Lender, the obligation of such Lender to make Loans to the Borrower on each Applicable Funding Date in accordance with the terms and conditions of this Agreement, which commitment is in the amount set forth opposite such Lender's name in the Loans Schedule under the caption "Applicable Commitment", as such Schedule may be amended from time to time pursuant to an Assignment and Assumption or otherwise pursuant to this Agreement. The aggregate amount of Commitments on the Closing Date equals $45,000,000 and refers to the sum of the Tranche A Commitment and the Tranche B Commitment; provided, that following the effectiveness of the Tranche C Commitment, this defined term shall be automatically deemed to include the Tranche C Commitment.

"***Commitment Termination Date***" means (a) with respect to the Applicable Commitments of the Tranche B Term Loans, July 31, 2024, and (b) with respect to the Applicable Commitments of the Tranche C Term Loans, September 6, 2028.

"***Common Stock***" means the Borrower's common stock, $0.00001 par value per share, as presently constituted under the Borrower's Organic Documents, and any class and/or series of Borrower's capital stock for or into which such common stock may be converted or exchanged in a reorganization, recapitalization or similar transaction.

"***Company Competitor***" means (i) any competitor of the Borrower or any of its Subsidiaries primarily operating in the same line of business as the Borrower or any of its Subsidiaries and (ii) any of such competitor's Affiliates (other than any Person that is a bona fide debt fund primarily engaged in the making, purchasing, holding or other investing in commercial loans, notes, bonds or similar extensions of credit or securities in the Ordinary Course) that, in the case of each of **clauses (i)** and **(ii)**, are identified by name in writing by the Borrower to the Administrative Agent from time to time. Notwithstanding anything to the contrary contained in this Agreement, (a) the Administrative Agent shall not be responsible or have any liability for, or have any duty to ascertain, inquire into, monitor or enforce, compliance with the provisions hereof relating to Company Competitor and (b) the Borrower, the Guarantors and the Lenders acknowledge and agree that the Administrative Agent shall have no responsibility or obligation to determine whether any Lender or potential Lender is a Company Competitor and that the Administrative Agent shall have no liability with respect to any assignment or participation made to a Company Competitor.

"***Compliance Certificate***" has the meaning set forth in **Section 8.01(d)**.

"***Connection Income Taxes***" means Other Connection Taxes that are imposed on or measured by net income (however denominated) or that are franchise Taxes or branch profits Taxes.

"***Contracts***" means any contract, license, lease, agreement, obligation, promise, undertaking, understanding, arrangement, document, commitment, entitlement or engagement under which a Person has, or will have, any liability or contingent liability (in each case, whether written or oral, express or implied, and whether in respect of monetary or payment obligations, performance obligations or otherwise).

"***Control***" means, in respect of a particular Person, the possession by one or more other Persons, directly or indirectly, of the power to direct or cause the direction of the management or policies of such particular Person, whether through the ability to exercise voting power, by contract or otherwise. "***Controlling***" and "***Controlled***" have meanings correlative thereto.

"***Controlled Account***" has the meaning set forth in **Section 8.16(a)**.

"***Copyright***" means, whether registered or unregistered, all copyrights (including with respect to published and unpublished works of authorship (whether or not copyrightable), software, website and mobile content, data, databases and other compilations of information), copyright registrations and applications for copyright registrations, including all renewals, restorations, reversions, derivatives, extensions and combinations thereof, common law rights and all other rights whatsoever accruing thereunder or pertaining thereto throughout the world.

"***Default***" means any Event of Default and any event that, upon the giving of notice, the lapse of time or both, would constitute an Event of Default.

"***Default Rate***" has the meaning set forth in **Section 3.02(b)**.

"***Defaulting Lender***" means, subject to **Section 2.06(b)**, any Lender, as determined by the Administrative Agent, that (a) has failed to perform any of its funding obligations hereunder, including with respect to any Tranche A Commitments, any Tranche B Commitments or, if applicable, any Tranche C Commitment within three (3) Business Days of the date required to be funded by it hereunder, unless such Lender notifies the Administrative Agent in writing that such failure is the result of such Lender's good faith determination that a condition precedent to funding (specifically identified, together with any applicable default) has not been satisfied, (b) has notified the Borrower or the Administrative Agent that it does not intend to comply with its funding obligations hereunder or has made a public statement to that effect (unless such notice or public statement relates to such Lender's obligation to fund a Loan hereunder and states that such position is based on such Lender's good faith determination that a condition precedent to funding (specifically identified, together with any applicable default) has not been satisfied or (c) has, or has a direct or indirect parent company that has, (i) become the subject of an Insolvency Proceeding, (ii) had a receiver, conservator, trustee, administrator, assignee for the benefit of creditors or similar Person charged with reorganization or liquidation of its business or a custodian appointed for it, (iii) taken any action in furtherance of, or indicated its consent to, approval of or acquiescence in any such proceeding or appointment or (iv) become the subject of a Bail-In Action; provided, that, a Lender shall not be a Defaulting Lender solely by virtue of the ownership or acquisition of any Equity Interests in that Lender or any direct or indirect parent company thereof by a Governmental Authority so long as such ownership interest does not result in or provide such Lender with immunity from the jurisdiction of courts within the United States of America or from the enforcement of judgments or writs of attachment on its assets or permit such Lender (or such Governmental Authority) to reject, repudiate, disavow or disaffirm any contracts or agreements made with such Lender. Any determination by the Administrative Agent that a Lender is a Defaulting Lender under any one or more of **clauses (a)** through **(c)** above, and of the effective date of such status, shall be conclusive and binding absent manifest error, and such Lender shall be deemed to be a Defaulting Lender (subject to **Section 2.06(b)**) as of the date established therefor by the Administrative Agent in a written notice of such determination, which shall be delivered by the Administrative Agent to the Borrower and each Lender promptly following such determination.

"***Deferred Acquisition Consideration***" means any purchase price adjustments, royalty, earn-out, milestone payments, contingent or other deferred payments of a similar nature (including any non-compete payments and consulting payments) made in connection with any Permitted Acquisition or other acquisition or investment permitted under this Agreement.

"***Designated Jurisdiction***" means, at any time, any country, region or territory to the extent that such country or territory is the subject or target of any applicable Sanctions (which, at the time of this Agreement, includes the so-called Donetsk People's Republic, the so-called Luhansk People's Republic, the Crimea Region of Ukraine, Cuba, Iran, North Korea and Syria).

"***Disqualified Equity Interests***" means, with respect to any Person, any Equity Interest of such Person that, by its terms (or by the terms of any security or other Equity Interest into which it is convertible or for which it is exchangeable), or upon the happening of any event or condition (a) matures or is mandatorily redeemable or requires such Person to use efforts to redeem such Equity Interests (in each case, other than solely for (x) Qualified Equity Interests and (y) cash in

lieu of fractional shares), including pursuant to a sinking fund obligation or otherwise, (b) is redeemable at the option of the holder thereof (other than solely for (x) Qualified Equity Interests and (y) cash in lieu of fractional shares), in whole or in part, (c) provides for the scheduled payments of dividends or other distributions in cash or other securities that would constitute Disqualified Equity Interests, or (d) is or becomes convertible into or exchangeable for Indebtedness or any other Equity Interests that would constitute Disqualified Equity Interests, in each case, prior to the date that is ninety-one (91) days after the Maturity Date; provided, that if such Equity Interests are issued to any employee or any plan for the benefit of employees of Borrower or its Subsidiaries or by any such plan to such employees, such Equity Interests shall not constitute Disqualified Equity Interests solely because they may be required to be repurchased by Borrower or its Subsidiaries in order to satisfy applicable statutory or regulatory obligations or as a result of any such employee's termination, death or disability.

"***Disqualified Lender***" means any Person that is a vulture fund, distressed debt purchaser or similar institution whose primary business consists of purchasing or investing in persons that are highly financially distressed and insolvent or imminently insolvent. Notwithstanding anything to the contrary contained in this Agreement, (a) the Administrative Agent shall not be responsible or have any liability for, or have any duty to ascertain, inquire into, monitor or enforce, compliance with the provisions hereof relating to Disqualified Lenders and (b) the Borrower, the Guarantors and the Lenders acknowledge and agree that the Administrative Agent shall have no responsibility or obligation to determine whether any Lender or potential Lender is a Disqualified Lender and that the Administrative Agent shall have no liability with respect to any assignment or participation made to a Disqualified Lender. For the avoidance of doubt, any Affiliate of a Lender shall not be deemed a Disqualified Lender.

"***Division***" has the meaning set forth in **Section 1.04**.

"***Dollars***" and "***$***" means lawful money of the United States of America.

"***Domestic Subsidiary***" means any Subsidiary that is a corporation, limited liability company, partnership or similar business entity incorporated, formed or organized under the laws of the United States, any state of the United States or the District of Columbia.

"***EEA Financial Institution***" means (a) any credit institution or investment firm established in any EEA Member Country which is subject to the supervision of an EEA Resolution Authority, (b) any entity established in an EEA Member Country which is a parent of an institution described in **clause (a)** of this definition, or (c) any financial institution established in an EEA Member Country which is a subsidiary of an institution described in **clauses (a)** or **(b)** of this definition and is subject to consolidated supervision with its parent.

"***EEA Member Country***" means any of the member states of the European Union, Iceland, Liechtenstein, and Norway.

"***EEA Resolution Authority***" means any public administrative authority or any person entrusted with public administrative authority of any EEA Member Country (including any delegee) having responsibility for the resolution of any EEA Financial Institution.

"***Eligible Transferee***" means and includes (i) any commercial bank, (ii) any insurance company, (iii) any finance company, (iv) any financial institution, (v) any Person that is a bona fide debt fund primarily engaged in the making, purchasing, holding or other investing in commercial loans, notes, bonds or similar extensions of credit or securities in the Ordinary Course, (vi) with respect to any Lender, any of its Affiliates or such Lender's or Affiliate's managed funds or accounts, (vii) any other Lender and (viii) any other "accredited investor" (as defined in Regulation D of the Securities Act) that is principally in the business of managing investments or holding assets for investment purposes; provided that, an Eligible Transferee shall not include any (x) Company Competitor, (y) Disqualified Lender nor any of its Affiliates or (z) Defaulting Lender nor any of its Affiliates; provided; further that (A) neither **clause (x)** or **(y)** above shall apply retroactively to any Person that previously acquired an assignment or participation interest hereunder to the extent such Person was not a Company Competitor or Disqualified Lender at the time of the applicable assignment or participation, as the case may be, and (B) with respect to both **clauses (x)** and **(y)** above, the Administrative Agent shall not have any duty or obligation to carry out due diligence in order to identify or determine whether a Person would be excluded as an Eligible Transferee as a result of the application of either such proviso.

"***Employee Benefit Plan***" means any of (a) an "employee benefit plan" (as defined in ERISA) that is subject to Title I of ERISA, (b) a "plan" as defined in and subject to Section 4975 of the Code or (c) any Person whose assets include (for purposes of ERISA Section 3(42) or otherwise for purposes of Title I of ERISA or Section 4975 of the Code) the assets of any such "employee benefit plan" or "plan".

"***Environmental Claims***" means any investigation, notice, notice of violation, claim, action, suit, proceeding, demand, information request, abatement order or other order or directive (conditional or otherwise), by any Governmental Authority or any other Person, arising (a) pursuant to or in connection with any actual or alleged violation of any Environmental Law; (b) in connection with any Hazardous Material or any actual or alleged Hazardous Materials Activity; or (c) in connection with any actual or alleged damage, injury, threat or harm to health, safety, natural resources or the environment, arising out of a violation of Environmental Law or any Hazardous Materials Activity.

"***Environmental Law***" means all laws (including common law and any federal, state, provincial or local governmental law), rule, regulation, order, writ, judgment, notice, requirement, binding agreement, injunction or decree, whether U.S. or non-U.S., relating in any way to (a) environmental matters, including those relating to any Hazardous Materials Activity; (b) the generation, use, storage, transportation or disposal of Hazardous Materials; or (c) to the extent related to Hazardous Materials Activity, occupational safety and health, industrial hygiene, land use, natural resources or the protection of the environment or human, plant or animal health or welfare, in any manner applicable to the Borrower or any of its Subsidiaries or any Facility.

"***Environmental Liability***" means any liability, contingent or otherwise (including any liability for damages, costs of environmental remediation, fines, penalties or indemnities), of any Obligor or any of its Subsidiaries directly or indirectly resulting from or based upon (a) violation of any Environmental Law, (b) the generation, use, handling, transportation, storage, treatment or disposal of any Hazardous Materials, (c) exposure to any Hazardous Materials, (d) the release or threatened release of any Hazardous Materials into the environment or (e) any contract, agreement or other consensual arrangement pursuant to which liability is assumed or imposed with respect to any of the foregoing.

"***Equity Interests***" means, with respect to any Person (for purposes of this defined term, an "***issuer***"), all shares of, interests or participations in, or other equivalents in respect of such issuer's capital stock, including all membership interests, partnership interests or equivalent, whether now outstanding or issued after the Closing Date, and in each case, however designated and whether voting or non-voting. Notwithstanding the foregoing, in no event shall any Indebtedness convertible or exchangeable into Equity Interests constitute "Equity Interests" hereunder.

"***ERISA***" means the United States Employee Retirement Income Security Act of 1974, as amended, and the rules and regulations promulgated thereunder.

"***ERISA Affiliate***" means any corporation or trade or business (whether or not incorporated) that is a member of any group of organizations under common control with any Obligor or Subsidiary thereof, within the meaning of Section 414(b) or (c) of the Code (and Sections 414(m) and (o) of the Code for purposes of provisions relating to Section 412 of the Code or Section 302 of ERISA) of which any Obligor or Subsidiary thereof is a member.

"***ERISA Event***" means (a) any of the events set forth in Section 4043(c) of ERISA with respect to a Title IV Plan, excluding, however, events for which the 30-day notice period has been waived; (b) the applicability of the requirements of Section 4043(b) of ERISA with respect to a contributing sponsor, as defined in Section 4001(a)(13) of ERISA, to any Title IV Plan where an event described in paragraph (9), (10), (11), (12) or (13) of Section 4043(c) of ERISA is reasonably expected to occur with respect to such plan within the following thirty (30) days; (c) a withdrawal incurrence by any Obligor or any ERISA Affiliate thereof from a Title IV Plan or the termination of any Title IV Plan, in either case, resulting in any liability under Sections 4063 or 4064 of ERISA; (d) the withdrawal of any Obligor or any ERISA Affiliate thereof in a complete or partial withdrawal (within the meaning of Section 4203 and 4205 of ERISA) from any Multiemployer Plan if there is any potential liability therefore, or the receipt by any Obligor or any ERISA Affiliate thereof of notice from any Multiemployer Plan that it is insolvent pursuant to Section 4245 of ERISA (within the meaning of Title IV of ERISA); (e) the filing of a notice of intent to terminate a Title IV Plan or Multiemployer Plan under, or the treatment of a plan amendment as a termination under, Section 4041 or 4041A of ERISA, or the commencement of proceedings by the PBGC to terminate a Title IV Plan or Multiemployer Plan, but in the case of a multiple-employer plan or a Multiemployer Plan, only once notice has been received from the plan administrator; (f) the imposition of liability on any Obligor or any ERISA Affiliate thereof pursuant to Sections 4062(e) or 4069 of ERISA or by reason of the application of Section 4212(c) of ERISA; (g) the failure by any Obligor or any ERISA Affiliate thereof to make any required contribution to a Title IV Plan, or the failure to meet the minimum funding standard of Section 412 of the Code with respect to any Title IV Plan (whether or not waived in accordance with Section 412(c) of the Code) or the failure to make by its due date a required installment under Section 430 of the Code with respect to any Title IV Plan or the failure to make any required contribution to a Multiemployer Plan; (h) the determination that any Title IV Plan is considered an at-risk plan or a plan in endangered or critical status within the meaning of Sections 430, 431 and 432 of the Code or Sections 303, 304 and 305 of ERISA, but in the case of a multiple-employer plan or a Multiemployer Plan, only once notice has been received from the plan administrator; (i) an event or condition which might

reasonably be expected to constitute grounds under Section 4042 of ERISA for the termination of, or the appointment of a trustee to administer, any Title IV Plan or Multiemployer Plan; (j) the imposition of any liability under Title IV of ERISA, other than PBGC premiums due but not delinquent under Section 4007 of ERISA, upon any Obligor or any ERISA Affiliate thereof; (k) an application for a funding waiver under Section 303 of ERISA or an extension of any amortization period pursuant to Section 412 of the Code with respect to any Title IV Plan, but in the case of a multiple-employer plan, only once notice has been received from the plan administrator; (l) the occurrence of a non-exempt prohibited transaction under Sections 406 or 407 of ERISA for which any Obligor or any Subsidiary thereof could reasonably be expected to be directly or indirectly liable; (m) a violation of the applicable requirements of Section 404 or 405 of ERISA or the exclusive benefit rule under Section 401(a) of the Code by any fiduciary or disqualified person for which any Obligor or any ERISA Affiliate thereof may be directly or indirectly liable; (n) the occurrence of an act or omission which could reasonably be expected to give rise to the imposition on any Obligor or any ERISA Affiliate thereof of fines, penalties, taxes or related charges under Chapter 43 of the Code or under Sections 409, 502(c), (i) or (1) or 4071 of ERISA; (o) the assertion of a material claim (other than routine claims for benefits) against any Title IV Plan or the assets thereof, but in the case of a multiple-employer plan, only once notice has been received from the plan administrator, or against any Obligor or any Subsidiary thereof in connection with any such plan; (p) receipt from the IRS of notice of the failure of any Qualified Plan to qualify under Section 401(a) of the Code, or the failure of any trust forming part of any Qualified Plan to qualify for exemption from taxation under Section 501(a) of the Code that is not corrected under the IRS's Employee Plans Compliance Resolution System (EPCRS), but in the case of a multiple-employer plan, only once notice has been received from the plan administrator; (q) the imposition of any lien (or the fulfillment of the conditions for the imposition of any lien) on any of the rights, properties or assets of any Obligor or any ERISA Affiliate thereof, in either case pursuant to Title IV, including Section 302(f) or 303(k) of ERISA or to Section 401(a)(29) or 430(k) of the Code; (r) the engagement by any Obligor or any ERISA Affiliate in a transaction that could reasonably be expected to be subject to Section 4069 or Section 4212(c) of ERISA; or (s) the establishment or amendment by any Obligor or any Subsidiary thereof of any "welfare plan", as such term is defined in Section 3(1) of ERISA, that provides post-employment welfare benefits in a manner that would materially increase the liability of any Obligor, other than payment of premiums otherwise required by section 4980B of the Code; or (t) the failure by any Obligor or any ERISA Affiliate to meet all applicable requirements under the ERISA Funding Rules or the filing of an application for the waiver of the minimum funding standards under the ERISA Funding Rules.

"***ERISA Funding Rules***" means the rules of the Code and ERISA regarding minimum funding standards and minimum required contributions (including any installment payment thereof) to Title IV Plans and Multiemployer Plans, as set forth in Sections 412, 430, 431, 432 and 436 of the Code and Sections 302, 303, 304 and 305 of ERISA.

"***Erroneous Payment***" has the meaning assigned to it in **Section 12.13(a)**.

"***Erroneous Payment Deficiency Assignment***" has the meaning assigned to it in **Section 12.13(b)**.

"***Erroneous Payment Impacted Loans***" has the meaning assigned to it in **Section 12.13(d)**.

"***Erroneous Payment Return Deficiency***" has the meaning assigned to it in **Section 12.13(d)**.

"***Erroneous Payment Subrogation Rights***" has the meaning assigned to it in **Section 12.13(d)**.

"***EU Bail-In Legislation Schedule***" means the EU Bail-In Legislation Schedule published by the Loan Market Association (or any successor Person), as in effect from time to time.

"***Event of Default***" has the meaning set forth in **Section 11.01**.

"***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"***Excluded Accounts***" means (a) deposit accounts exclusively used for payroll, payroll Taxes and other employee wage and benefit payments to or for the benefit of any Obligor's employees in the Ordinary Course and, with respect to such deposit accounts exclusively used for payroll, having an amount no greater than payroll reasonably expected to be required in the next 45 days, (b) zero balance accounts in the Ordinary Course that are swept no less frequently than weekly to a Controlled Account (including any such account where payments pursuant to state Medicaid programs, the Medicare program, TRICARE or other state or federal healthcare payor programs are deposited), (c) accounts (including trust accounts) used exclusively for bona fide escrow purposes, insurance or fiduciary purposes, (d) cash collateral for Permitted Liens and (e) any other deposit accounts, money market accounts or securities accounts, only for so long as, in the case of this **clause (e)**, the amounts among all such accounts do not exceed $500,000 in the aggregate.

"***Excluded Taxes***" means any of the following Taxes imposed on or with respect to a Recipient or required to be withheld or deducted from a payment to a Recipient: (a) Taxes imposed on or measured by net income (however denominated), franchise Taxes and branch profits Taxes, in each case, (x) imposed as a result of such Recipient being organized under the laws of, or having its principal office or, in the case of any Lender, its applicable lending office located in, the jurisdiction imposing such Tax (or any political subdivision thereof) or (y) that are Other Connection Taxes, (b) in the case of a Lender, U.S. federal withholding Taxes imposed on amounts payable to or for the account of such Lender with respect to an applicable interest in a Loan or Commitment pursuant to a law in effect on the date on which (1) such Lender acquires such interest in the Loan or Commitment (other than pursuant to an assignment request by the Borrower under **Section 5.04(b)**) or (2) such Lender changes its lending office, except in each case to the extent that, pursuant to **Section 5.03**, amounts with respect to such Taxes were payable either to such Lender's assignor immediately before such Lender became a party hereto or to such Lender immediately before it changed its lending office, (c) Taxes attributable to such Recipient's failure to comply with **Section 5.03(f)**, and (d) any withholding Taxes imposed under FATCA.

"***Existing Convertible Notes***" means (i) that certain Convertible Promissory Note issued by Borrower in favor of Maverick Designated Investment Fund, L.P. (ii) that certain Convertible Promissory Note issued by Borrower in favor of Maverick Growth Fund, L.P. and (iii) that certain Convertible Promissory Note issued by Borrower in favor of ECWC Holdings LLC, each as listed on the Perfection Certificate delivered on the Closing Date.

"***Exit Fee***" has the meaning assigned to such term in the Fee Letter.

"***Facility***" means any real property (including all buildings, fixtures or other improvements located thereon) now, hereafter or heretofore owned, leased or operated by any Obligor or any of its Subsidiaries.

"***FATCA***" means Sections 1471 through 1474 of the Code, as of the date of this Agreement (or any amended or successor version that is substantively comparable and not materially more onerous to comply with), any current or future regulations or official interpretations thereof, any agreements entered into pursuant to Section 1471(b)(1) of the Code and any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement, treaty or convention among Governmental Authorities and implementing such Sections of the Code.

"***FD&C Act***" means the U.S. Food, Drug and Cosmetic Act, 21 U.S.C. §§ 301 et seq. (or any successor thereto), as amended from time to time, and the rules and regulations issued or promulgated thereunder.

"***FDA***" means the U.S. Food and Drug Administration and any successor thereto.

"***Federal Funds Effective Rate***" means, for any day, the rate calculated by the Federal Reserve Bank of New York based on such day's federal funds transactions by depositary institutions (as determined in such manner as the Federal Reserve Bank of New York shall set forth on its public website from time to time) and published on the next succeeding Business Day by the Federal Reserve Bank of New York as the federal funds effective rate; provided, that (a) if such day is not a Business Day, the Federal Funds Effective Rate for such day shall be such rate on such transactions on the next preceding Business Day as so published on the next succeeding Business Day, and (b) if no such rate is so published on such next succeeding Business Day, the Federal Funds Effective Rate for such day shall be the average rate charged to three (3) major banks on such day on such transactions as determined by the Administrative Agent; provided, further, that if the Federal Funds Effective Rate as so determined would be less than zero, such rate shall be deemed to be zero for the purposes of this Agreement.

"***Fee Letter***" means, collectively, (i) the Fee Letter, dated the date of this Agreement, among the Borrower, Symbiotic and the Administrative Agent and (ii) the Fee Letter, dated the date of this Agreement, between the Borrower and Catalio.

"***FEMA***" has the meaning set forth in **Section 8.12(c)**.

"***Foreign Lender***" means a Lender that is not a U.S. Person.

"***Foreign Plan***" means any employee pension benefit plan, program, policy, arrangement or agreement maintained or contributed to by any Obligor or any Subsidiary thereof with respect to employees employed outside the United States (other than any governmental arrangement).

"***Foreign Plan Event***" means, with respect to any Foreign Plan, (A) the failure to make or, if applicable, accrue in accordance with normal accounting practices, any employer or employee contributions required by applicable law or by the terms of such Foreign Plan; (B) the failure to register or loss of good standing with applicable regulatory authorities of any such Foreign Plan required to be registered; (C) the failure of any Foreign Plan to comply with any material provisions of applicable Law and regulations or with the material terms of such Foreign Plan; or (D) the imposition of any liability on account of the complete or partial termination of any Foreign Plan or the complete or partial withdrawal of any participating employer therein.

"***Foreign Pledge Agreement***" means a pledge or charge agreement with respect to any Collateral that constitutes Equity Interests of a Foreign Subsidiary of an Obligor, in form and substance reasonably satisfactory to the Administrative Agent.

"***Foreign Subsidiary***" means any Subsidiary other than a Domestic Subsidiary.

"***Funding Date Certificate***" means a certificate substantially in the form of **Exhibit J**.

"***GAAP***" means generally accepted accounting principles in the United States of America, as in effect from time to time, set forth in the opinions and pronouncements of the Accounting Principles Board and the American Institute of Certified Public Accountants, in the statements and pronouncements of the Financial Accounting Standards Board and in such other statements by such other entity as may be in general use by significant segments of the accounting profession that are applicable to the circumstances as of the date of determination. All references to "GAAP" shall be to GAAP applied consistently with the principles used in the preparation of the financial statements delivered pursuant to **Section 6.01(d)**.

"***Governmental Approval***" means any consent, authorization, approval, order, license, franchise, permit, certification, accreditation, registration, clearance or exemption that is issued or granted by or from (or pursuant to any act of) any Governmental Authority.

"***Governmental Authority***" means any nation, government, branch of power (whether executive, legislative or judicial), state, province or municipality or other political subdivision thereof and any entity exercising executive, legislative, judicial, monetary, regulatory or administrative functions of or pertaining to government, including regulatory authorities, governmental departments, agencies, commissions, bureaus, officials, ministers, courts, bodies, boards, tribunals and dispute settlement panels, and other law-, rule- or regulation-making organizations or entities of any state, territory, county, city or other political subdivision of any country, in each case whether U.S. or non-U.S.

"***Guarantee***" of or by any Person (the "***guarantor***") means any obligation, contingent or otherwise, of the guarantor guaranteeing or having the economic effect of guaranteeing any Indebtedness or other obligation (the "***primary obligations***") of any other Person (the "***primary obligor***") in any manner, whether directly or indirectly, and including any obligation of the guarantor, direct or indirect, (a) to purchase or pay (or advance or supply funds for the purchase or payment of) such primary obligations or to purchase (or to advance or supply funds for the purchase of) any security for the payment thereof, (b) to purchase or lease property, securities or services for the purpose of assuring the owner of such primary obligations of the payment thereof,

(c) to maintain working capital, equity capital or any other financial statement condition or liquidity of the primary obligor so as to enable the primary obligor to pay such primary obligations or (d) as an account party in respect of any letter of credit or letter of guaranty (including any bank guarantee) issued to support such primary obligations; provided, that the term Guarantee shall not include (x) endorsements for collection or deposit and (y) guarantees of operating leases, in each case, in the Ordinary Course. The amount of any Guarantee of any guarantor shall be deemed to be equal to the lower of (i) the stated or determinable amount of the primary obligation in respect of which such Guarantee is made and (ii) the maximum amount for which such guarantor may be liable pursuant to the terms of the instrument embodying such Guarantee, unless such primary obligation and the maximum amount for which such guarantor may be liable are not stated or determinable, in which case the amount of such Guarantee shall be such guarantor's maximum reasonably anticipated liability in respect thereof as determined by the Borrower in good faith.

"***Guarantee Assumption Agreement***" means a Guarantee Assumption Agreement substantially in the form of **Exhibit C** by an entity that, pursuant to **Section 8.12(a)**, is required to become a "Subsidiary Guarantor."

"***Guaranteed Obligations***" has the meaning set forth in **Section 13.01**.

"***Guarantor***" has the meaning set forth in the Preamble hereto.

"***Guarantor Payment***" has the meaning set forth in **Section 13.10(a)**.

"***Guaranty***" means the Guaranty made by the Subsidiary Guarantors under **Section 13** in favor of the Secured Parties (including any Guaranty assumed by an entity that is required to become a "Subsidiary Guarantor" pursuant to a Guarantee Assumption Agreement).

"***Hazardous Material***" means any chemical, material or substance, exposure to which is prohibited, limited or regulated by any Governmental Authority or which may or would reasonably be expected to pose a hazard to the health and safety of the owners, occupants or any Persons in the vicinity of any Facility or to the indoor or outdoor environment.

"***Hazardous Materials Activity***" means any past, current, proposed or threatened activity, event or occurrence involving any Hazardous Materials, including the use, manufacture, possession, storage, holding, presence, existence, location, release, threatened release, discharge, placement, generation, transportation, processing, construction, treatment, abatement, removal, remediation, disposal, recycling, disposition or handling of any Hazardous Materials, and any investigation, monitoring, corrective action or response action with respect to any of the foregoing.

"***Healthcare Laws***" means, collectively, all Laws and Product Authorizations applicable to the business, any Product or the Product Commercialization and Development Activities of any Obligor, whether U.S. or non-U.S., regulating the distribution, dispensing, importation, exportation, quality, manufacturing, marketing, labeling, promotion and provision of and payment for medical devices, including, the FD&C Act, the federal Anti-Kickback Statute (42 U.S.C. §1320a-7b(b)), the federal False Claims Act (42 U.S.C. §1320a-7b(a)), and all rules and regulations promulgated under or pursuant to any of the foregoing, including any state and non-U.S. equivalents.

"***Hedging Agreement***" means any interest rate exchange agreement, foreign currency exchange agreement, commodity price protection agreement or other interest or currency exchange rate or commodity price hedging arrangement entered into for non-speculative purposes designated to protect a Person against fluctuation in interest rates, currency exchange rates, commodity or mineral price.

"***Immaterial Foreign Subsidiary***" means any Foreign Subsidiary that (a) maintains cash and other assets with an aggregate value for all such Immaterial Foreign Subsidiaries of less than $500,000 of consolidated assets of Borrower and its Subsidiaries, (b) maintains revenue of less than $500,000 of consolidated revenues for any twelve month period then ended, (c) does not own any Material Intellectual Property and (d) is not party to any Material Agreements.

"***IND***" means an investigational new drug application submitted to the FDA pursuant to 21 C.F.R. Part 312 for allowance to initiate human clinical trials in the United States, including all amendments that may be submitted with respect to the foregoing.

"***Indebtedness***" of any Person means, without duplication, (a) all obligations of such Person for borrowed money, (b) all obligations of such Person evidenced by bonds, debentures, notes, loan agreements or similar instruments, (c) all obligations of such Person upon which interest charges are customarily paid, (d) all obligations of such Person under conditional sale or other title retention agreements relating to property acquired by such Person, (e) all obligations of such Person in respect of the deferred purchase price of property or services (excluding deferred compensation or customary obligations under employment agreements that are not overdue by more than thirty (30) days or otherwise being disputed in good faith), (f) all Indebtedness of others secured by (or for which the holder of such Indebtedness has an existing right, contingent or otherwise, to be secured by) any Lien on property owned or acquired by such Person, whether or not the Indebtedness secured thereby has been assumed, (g) all Guarantees by such Person of Indebtedness of others, (h) all Capital Lease Obligations of such Person, (i) all obligations, contingent or otherwise, of such Person as an account party in respect of letters of credit and letters of guaranty, (j) obligations under any Hedging Agreement, currency swaps, forwards, futures or derivatives transactions, (k) all obligations, contingent or otherwise, of such Person in respect of bankers' acceptances, (l) all milestone or similar payments of such Person under any license or other agreements (but excluding any such payments based on a percentage of sales or revenues under any such license or other agreement), (m) any Disqualified Equity Interests of such Person, and (n) all other obligations required to be classified as indebtedness of such Person under GAAP. The Indebtedness of any Person shall include the Indebtedness of any other entity (including any partnership in which such Person is a general partner) to the extent such Person is liable therefor as a result of such Person's ownership interest in or other relationship with such entity, except to the extent the terms of such Indebtedness provide that such Person is not liable therefor.

"***Indemnified Party***" has the meaning set forth in **Section 14.03(b)**.

"***Indemnified Taxes***" means (a) Taxes, other than Excluded Taxes, imposed on or with respect to any payment made by or on account of any Obligation and (b) to the extent not otherwise described in **clause (a)**, Other Taxes.

"***Insolvency Proceeding***" means (a) any case, action or proceeding before any court or other Governmental Authority relating to bankruptcy, reorganization, insolvency, administration, moratorium, liquidation, receivership, examinership, dissolution, winding-up or relief of debtors, or (b) any general assignment for the benefit of creditors, composition, marshaling of assets for creditors, or other, similar arrangement in respect of any Person's creditors generally or any substantial portion of such Person's creditors, in each case undertaken under U.S. federal or state law, including the Bankruptcy Code, or any foreign law.

"***Intellectual Property***" means all intellectual property or proprietary rights of any kind anywhere in the world relating to intellectual property, including any rights in or to Patents, Trademarks, Copyrights and Technical Information, in each case, whether U.S. or non U.S.

"***Intercompany Subordination Agreement***" means a subordination agreement to be executed and delivered by each Obligor and each of its Subsidiaries, pursuant to which all obligations in respect of any Indebtedness owing to any such Person by an Obligor shall be subordinated to the prior payment in full in cash of all Obligations, such agreement to be in substantially the form attached hereto as **Exhibit H**.

"***Interest Period***" means (a) the period commencing on and including the Closing Date and ending on but excluding the immediately subsequent Payment Date and (b) subsequently, each period commencing on and excluding the last day of the previous Interest Period for such Loan and ending on but excluding the immediately subsequent Payment Date; provided however if such period shall end on a day that is not a Business Day, it shall be deemed to end on the next succeeding Business Day.

"***Interest Rate***" means, for any Interest Period, a rate per annum equal to the greater of (a) the sum of (x) the WSJ Prime as of the first day of such Interest Period plus (y) five and one half of one percent (5.50%) and (b) thirteen and one quarter of one percent (13.25%), in each case, as may be increased pursuant to **Section 3.02(b)**.

"***Invention***" means any novel, inventive and useful art, apparatus, method, process, machine (including any article or device), manufacture or composition of matter, or any novel, inventive and useful improvement in any art, method, process, machine (including article or device), manufacture or composition of matter.

"***Investment***" means, for any Person: (a) the acquisition (whether for cash, property, services or securities or otherwise) of any debt or Equity Interests, bonds, notes, debentures, partnership or other ownership interests or other securities of any other Person (including any "short sale" or any sale of any securities at a time when such securities are not owned by the Person entering into such sale); (b) the making of any deposit with, or advance, loan, assumption of debt or other extension of credit to, or capital contribution in any other Person (including the purchase of property from another Person subject to an understanding or agreement, contingent or otherwise, to resell such property to such Person) but excluding any such advance, loan or extension of credit having a term not exceeding sixty (60) days arising in connection with the sale of inventory or supplies by such Person in the Ordinary Course; (c) the entering into of any Guarantee of, or other contingent obligation with respect to, Indebtedness or other liability of any other Person and (without duplication) any amount committed to be advanced, lent or extended to such Person; or

(d) an Acquisition. The amount of an Investment shall be the amount actually invested (which, in the case of any Investment constituting the contribution of an asset or property, shall be based on such Person's good faith estimate of the fair market value of such asset or property at the time such Investment is made), less the amount of cash received or returned for such Investment, without adjustment for subsequent increases or decreases in the value of such Investment or write-ups, write-downs or write-offs with respect thereto; provided that in no event shall such amount be less than zero or increase any basket or amount pursuant to **Section 9.05** above the fixed amount set forth therein.

"***IRS***" means the U.S. Internal Revenue Service or any successor agency, and to the extent relevant, the U.S. Department of the Treasury.

"***IT Assets***" means technology devices, computers, software, servers, networks, workstations, routers, hubs, circuits, switches, data communications lines, and all other information technology equipment, and all data stored therein or processed thereby, and all associated documentation.

"***Landlord Consent***" means a Landlord Consent substantially in the form of **Exhibit G** or in the form provided by the landlord, in form and substance reasonably satisfactory to the Administrative Agent.

"***Law***" means, collectively, all U.S. or non-U.S. federal, state, provincial, territorial, municipal or local statutes, treaties, rules, regulations, ordinances, codes or administrative or judicial precedents or authorities, and all applicable administrative orders, directed duties, requests, licenses, authorizations and permits of, and agreements with, any Governmental Authority, in each case having the force of law.

"***Lenders***" has the meaning set forth in the preamble hereto.

"***Lien***" means any claim, mortgage, deed of trust, levy, charge, pledge, hypothecation, assignment for security, security interest, license, lien, or other encumbrance of any kind, and any other security interest or any other agreements or arrangement having a similar effect, whether voluntarily incurred or arising by operation of law or otherwise against any property, any conditional sale or other title retention agreement, and any lease in the nature of a security interest or any preferential arrangement that has the practical effect of creating a security interest.

"***Loan***" means each loan advanced by a Lender pursuant to **Section 2.01**.

"***Loan Documents***" means, collectively, this Agreement, the Notes, the Security Documents, the Fee Letter, any Guarantee Assumption Agreement, the Intercompany Subordination Agreement and any subordination agreement, intercreditor agreement or other present or future document, instrument, agreement or certificate delivered to the Administrative Agent (for itself or for the benefit of any other Secured Party) in connection with this Agreement or any of the other Loan Documents, in each case, as amended or otherwise modified.

"***Loans Schedule***" means **Schedule 1** attached hereto.

"***Loss***" means judgments, debts, liabilities, expenses, costs, damages or losses, contingent or otherwise, whether liquidated or unliquidated, matured or unmatured, disputed or undisputed, contractual, legal or equitable, including loss of value, professional fees, including fees and disbursements of legal counsel on a full indemnity basis, and all costs incurred in investigating or pursuing any Claim or any proceeding relating to any Claim.

"***Majority Lenders***" means, at any time, Lenders having at such time in excess of fifty percent (50%) of the aggregate unused Commitments then in effect and the outstanding principal amount of the Loans at such time. The Commitments of any Defaulting Lender shall be disregarded in determining Majority Lenders at any time.

"***Malicious Code***" means disabling codes or instructions, spyware, Trojan horses, worms, viruses or other software routines that facilitate or cause unauthorized access to, or disruption, impairment, disablement, or destruction of, software, data or other materials (or that are intended to do the foregoing).

"***Mandatory Prepayment***" has the meaning set forth in **Section 3.03(b)(i)**.

"***Margin Stock***" means "margin stock" within the meaning of Regulations U and X.

"***Market Capitalization***" means, for any date of determination, an amount equal to (a) the average of the daily volume weighted average price of Borrower's Common Stock as reported for each of the ten (10) trading days preceding such date of determination (it being understood that a "trading day" shall mean a day on which shares of Borrower's Common Stock trade on a Recognized Exchange in an ordinary trading session) multiplied by (b) the total number of issued and outstanding shares of Borrower's Common Stock that are issued and outstanding on the date of the determination and listed on a Recognized Exchange, subject to appropriate adjustment for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

"***Material Adverse Change***" and "***Material Adverse Effect***" mean a material adverse change in or effect on (a) the business, operations, financial condition, assets or liabilities of the Borrower and its Subsidiaries taken as a whole, (b) the ability of the Obligors, taken as a whole to perform their obligations under the Loan Documents, as and when due, (c) the legality, validity, binding effect or enforceability of any Loan Document or (d) the rights, remedies and benefits available to, or conferred upon, the Administrative Agent or the Secured Parties under any Loan Document.

"***Material Agreement***" means (i) any Contract required to be disclosed (including amendments thereto) under regulations promulgated under the Securities Act or Exchange Act, and (ii) any other license, agreement or other contractual arrangement whereby Borrower or any of its Subsidiaries is required to transfer, either in-kind or in cash, prior to the Maturity Date, assets or property valued (book or market) at more than (x) prior to the consummation of a Qualified IPO, $2,500,000 and (y) following the consummation of a Qualified IPO, $5,000,000, in each case, individually per Fiscal Year. For the avoidance of doubt, employment and management contracts entered into in the Ordinary Course shall not be Material Agreements.

"***Material Environmental Liability***" means any Environmental Liability that has had or could reasonably be expected to have a Material Adverse Effect.

"***Material Indebtedness***" means, at any time, any Indebtedness of any Obligor or Subsidiary thereof, the outstanding principal amount of which, individually or in the aggregate, exceeds (x) prior to the consummation of a Qualified IPO, $1,000,000 and (y) following the consummation of a Qualified IPO, $2,500,000.

"***Material Intellectual Property***" means all Intellectual Property that is owned by (or purported to be owned by) or subject to a license, covenant not to sue or similar right for (or purported to be subject to a license, covenant not to sue or similar right for) the benefit of the Borrower or any of its Subsidiaries, or acquired, developed, created or obtained by or otherwise licensed to the Borrower or any of its Subsidiaries after the date hereof that is, in each case, material to the business of the Borrower and its Subsidiaries. "Material Intellectual Property" shall include all Intellectual Property embodied in and covering or related to the Products set forth on **Schedule 2** or Product Commercialization and Development Activities with respect to any Material Product.

"***Material Product***" means any Product (a) in which any Obligor and any of its Subsidiaries have invested more than $1,000,000 in the aggregate or (b) which has generated net revenue during any consecutive 12 month period in excess of $100,000, including Revita and Rejuva.

"***Material Product Authorizations***" means any and all Product Authorizations, in each case, necessary to be held or maintained by, or for the benefit of, any Obligor or any of its Subsidiaries for any Product Commercialization and Development Activities with respect to any Material Product.

"***Material Real Property***" shall mean any real property owned in fee by the Borrower or any other Obligor (or owned by any person required to become an Obligor hereunder) with a fair market value in excess of $1,000,000.

"***Material Subsidiary***" means any Subsidiary of the Borrower that is not an Immaterial Foreign Subsidiary.

"***Maturity Date***" means September 7, 2028.

"***Maximum Rate***" has the meaning set forth in **Section 14.17**.

"***Milestone***" means that the Borrower shall have provided evidence satisfactory to Administrative Agent that (a) the Borrower has received Qualified Financing Proceeds of at least $40,000,000 during the period commencing as of the Closing Date and on or prior to February 15, 2024, (b) at least $10,000,000 of such $40,000,000 of Qualified Financing Proceeds were received by the Borrower on or prior to December 15, 2023, and (c) the Borrower has either (i) received Qualified Financing Proceeds of at least $100,000,000 (inclusive of such Qualified Financing Proceeds in **clause (a)** above) or (ii) consummated a Qualified IPO, in each case, during the period commencing as of the Closing Date and prior to June 30, 2024.

"***Minimum Liquidity Amount***" means $10,000,000.

"***Mortgage***" means each mortgage, deed of trust and similar agreement or instrument creating a Lien on Material Real Property made by any Obligor in favor of, or for the benefit of, the Administrative Agent for the benefit of the Secured Parties, in form and substance reasonably satisfactory to the Administrative Agent and the Borrower and containing such provisions as shall be advisable under the law of the jurisdiction in which such mortgage or deed of trust is to be recorded, as the same may be amended, amended and restated, supplemented or otherwise modified from time to time.

"***MSC Investment Conditions***" means that, as of any date of determination, the Obligors, in the aggregate, maintain unrestricted cash and Permitted Cash Equivalent Investments in Controlled Accounts in an amount equal to or greater than one hundred and five percent (105%) of the aggregate outstanding principal amount of all Obligations plus the aggregate amount of all fees that would be due and payable by the Borrower pursuant to any Loan Document including, without limitation, the Exit Fee and any Yield Protection Premium, if all Obligations were to be repaid or prepaid in full on such date of determination.

"***MSC Subsidiary***" means any wholly-owned Subsidiary incorporated in the Commonwealth of Massachusetts or the State of Delaware for the purpose of holding Investments as a Massachusetts security corporation under 830 CMR 63.38B.1 of the Massachusetts tax code and applicable regulations (as the same may be amended, modified or replaced from time to time), and identified as such to Administrative Agent from time to time, including, as of the Closing Date, Fractyl Securities Corporation, a Massachusetts security corporation.

"***Multiemployer Plan***" means any employer benefit plan of the type described in Section 4001(a)(3) of ERISA, to which any Obligor or ERISA Affiliate makes or is obligated to make contributions, during the preceding five plan years has made or been obligated to make contributions, or has any obligation or liability, contingent or otherwise.

"***Net Cash Proceeds***" means, (a) with respect to any Casualty Event experienced or suffered by any Obligor or any of its Subsidiaries, the amount of cash proceeds received from time to time by or on behalf of such Person in respect thereof (other than the proceeds of any business interruption insurance) after deducting therefrom only (w) reasonable costs and expenses related thereto incurred by such Obligor or such Subsidiary in connection therewith, (x) Taxes (including transfer Taxes or net income Taxes) paid or payable in connection therewith, (y) reasonable reserves established for liabilities estimated to be payable in respect of such Casualty Event and deposited into escrow with a third party escrow agent on terms reasonably acceptable to the Administrative Agent or set aside in a Controlled Account and (z) any amounts required to be used to prepay Permitted Indebtedness pursuant to **Sections 9.01(i)** and **9.01(o)** secured by the assets subject to such Casualty Event (other than (A) Indebtedness owing to the Administrative Agent or any Lender under this Agreement or the other Loan Documents and (B) Indebtedness assumed by the purchaser of such asset); and (b) with respect to any Asset Sale by any Obligor or any of its Subsidiaries, the amount of cash proceeds received from time to time by or on behalf of such Person in respect thereof after deducting therefrom only (w) reasonable costs and expenses related thereto incurred by such Obligor or such Subsidiary in connection therewith, (x) Taxes (including transfer Taxes or net income Taxes) paid or payable in connection therewith, (y) reasonable reserves established for liabilities estimated to be payable in respect of such Asset Sale and deposited into escrow with a third party escrow agent on terms reasonably acceptable to the

Administrative Agent or set aside in a Controlled Account and (z) any amounts required to be used to prepay Permitted Indebtedness pursuant to **Sections 9.01(i)** and **9.01(o)** secured by the assets subject to such Asset Sale (other than (A) Indebtedness owing to the Administrative Agent or any Lender under this Agreement or the other Loan Documents and (B) Indebtedness assumed by the purchaser of such asset); provided that, in each case of **clauses (a)** and **(b)**, costs and expenses shall only be deducted to the extent, that the amounts so deducted are (x) actually paid or payable to a Person that is not an Affiliate of any Obligor or any of its Subsidiaries and (y) properly attributable to such Casualty Event or Asset Sale, as the case may be; it being understood that "Net Cash Proceeds" shall include, any cash received upon the sale or other disposition of any non-cash consideration received by any Obligor in any Casualty Event or Asset Sale.

"***Note***" means a promissory note, in substantially the form of **Exhibit A** hereto, executed and delivered by the Borrower to any Lender in accordance with **Section 2.04**.

"***NY UCC***" means the UCC as in effect from time to time in New York.

"***Obligations***" means, with respect to any Obligor, all amounts, obligations, liabilities, covenants and duties of every type and description owing by such Obligor to any Secured Party (including all Guaranteed Obligations) or any other indemnitee hereunder or any participant, arising out of, under, or in connection with, any Loan Document, whether direct or indirect (regardless of whether acquired by assignment), absolute or contingent, due or to become due, whether liquidated or not, now existing or hereafter arising and however acquired, and whether or not evidenced by any instrument or for the payment of money, including, without duplication, (a) if such Obligor is the Borrower, all Loans (including any PIK Interest accrued and capitalized), (b) all interest, whether or not accruing after the filing of any petition in bankruptcy or after the commencement of any insolvency, reorganization or similar proceeding, and whether or not a claim for post-filing or post-petition interest is allowed in any such proceeding, and (c) all other fees, expenses (including fees, charges and disbursement of counsel), interest, Yield Protection Premium, Exit Fee, commissions, charges, costs, disbursements, indemnities and reimbursement of amounts paid and other sums chargeable to such Obligor under any Loan Document. Notwithstanding the foregoing, amounts, obligations and liabilities under the Warrants, or any other right to invest in the Equity Interests of the Borrower shall not be included in the defined term "Obligations".

"***Obligors***" means, collectively, the Borrower and the Subsidiary Guarantors and their respective successors and permitted assigns.

"***OFAC***" has the meaning assigned to such term in the definition of "Anti-Terrorism Laws."

"***Ordinary Course***" means ordinary course of business or ordinary trade activities that are customary for similar businesses in the normal course of their ordinary operations and not while in financial distress.

"***Organic Document***" means, for any Person, such Person's formation documents, including, as applicable, its certificate of incorporation, by-laws, certificate of partnership, partnership agreement, certificate of formation, limited liability agreement, operating agreement and all shareholder agreements, voting trusts and similar arrangements applicable to such Person's Equity Interests, or any equivalent document of any of the foregoing.

"***Other Connection Taxes***" means, with respect to any Recipient, Taxes imposed as a result of a present or former connection between such Recipient and the jurisdiction imposing such Tax (other than connections arising from such Recipient having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).

"***Other Taxes***" means all present or future stamp, court or documentary, intangible, recording, filing or similar Taxes that arise from any payment made under, from the execution, delivery, performance, enforcement or registration of, from the receipt or perfection of a security interest under, or otherwise with respect to, any Loan Document, except any such Taxes that are Other Connection Taxes imposed with respect to an assignment (other than an assignment made pursuant to **Section 5.04**).

"***Participant***" has the meaning set forth in **Section 14.05(e)**.

"***Participant Register***" has the meaning set forth in **Section 14.05(e)**.

"***Patents***" means all provisional patent applications, patents and patent applications, the reissues, reexaminations, divisionals, continuations, renewals, extensions, and continuations in part thereof, and all rights whatsoever accruing thereunder or pertaining to the foregoing throughout the world.

"***Patriot Act***" has the meaning set forth in **Section 14.19**.

"***Payment Date***" means (a) the last Business Day of each calendar month of each year, commencing on the first such date to occur after the Closing Date; and (b) the Maturity Date.

"***Payment Notice***" has the meaning set forth in **Section 12.13(b)**.

"***Payment Recipient***" has the meaning assigned to it in **Section 12.13(a)**.

"***PBGC***" means the United States Pension Benefit Guaranty Corporation referred to and defined in ERISA and any successor entity performing similar functions.

"***Perfection Certificate***" means the Collateral, Perfection and Information Certificate delivered pursuant to **Section 6.01(c)** to the Administrative Agent, as amended, restated, supplemented or otherwise modified from time to time.

"***Permitted Acquisition***" means any Acquisition by the Borrower or any of its Subsidiaries, whether by exclusive license, purchase, merger or otherwise; provided that:

(a) immediately prior to, and immediately after giving effect thereto, no Default or Event of Default shall have occurred and be continuing or would result therefrom;

(b) such Acquisition shall comply in all material respects with all applicable Laws and all applicable Governmental Approvals;

(c) in the case of any Acquisition of Equity Interests of another Person, after giving effect to such Acquisition, all Equity Interests of such other Person acquired by the Borrower or any of its Subsidiaries shall be owned, directly or indirectly, beneficially and of record, by the Borrower or any of its Subsidiaries, and, the Borrower shall cause such acquired Person to satisfy each of the actions set forth in **Section 8.12** as and when required by such Section;

(d) if such Acquisition is structured as the acquisition or exclusive in-licensing of the right to use, make, have made, import, export, develop, sell or offer for sale, any product, product line or Intellectual Property of or from any other Person, such product, product line or Intellectual Property shall be acquired or exclusively in-licensed by an Obligor, shall be free and clear of Liens other than Permitted Liens and all other actions shall have been taken that are necessary or reasonably requested by the Administrative Agent to provide and perfect a first priority Lien to the Administrative Agent in such Intellectual Property or Intellectual Property directed to such product or product line (in each case, subject to Permitted Liens);

(e) on a Pro Forma Basis after giving effect to such Acquisition, the Borrower and its Subsidiaries shall be in compliance with the financial covenant set forth in **Section 10**;

(f) to the extent that all or any portion of the purchase price (including reasonable estimates of any Deferred Acquisition Consideration) for any such Acquisition is paid in cash, the amount thereof shall not exceed (i) $3,000,000 individually and (ii) $5,000,000 in the aggregate with all other Permitted Acquisitions at any time;

(g) to the extent that all or any portion of the purchase price for any such Acquisition is paid in Equity Interests, all such Equity Interests shall be Qualified Equity Interests;

(h) in the case of any such Acquisition that has a purchase price in excess of $2,000,000, the Borrower shall provide to the Administrative Agent (i) at least ten (10) days' prior written notice (or such shorter period as agreed by the Administrative Agent in its sole discretion) of any such Acquisition, together with summaries, prepared in reasonable detail, of all due diligence conducted by or on behalf of the Borrower or the applicable Subsidiary, as applicable, prior to such Acquisition, in each case subject to customary confidentiality restrictions, (ii) subject to customary confidentiality restrictions, a copy of the draft purchase agreement related to the proposed Acquisition (and any related documents reasonably requested by the Administrative Agent), (iii) pro forma financial statements of the Borrower and its Subsidiaries (as of the last day of the most recently ended fiscal quarter prior to the date of consummation of such Acquisition for which financial statements are required to be delivered pursuant to **8.01(a)** or **(b)**) after giving effect to such Acquisition and all copies of any quality of earnings or other report and (iv) subject to customary confidentiality restrictions, any other information reasonably requested (to the extent available), by the Administrative Agent and available to the Obligors;

(i) no Obligor or any of its Subsidiaries (including any acquired Person) shall, in connection with any such Acquisition, assume or remain liable with respect to (x) any Indebtedness of the related seller or the business, Person or assets acquired, except to the extent permitted pursuant to **Section 9.01(o)**, (y) any Lien on any business, Person or assets acquired, except to the extent permitted pursuant to **Section 9.02**, (z) any other liabilities that are not Indebtedness (including Tax, ERISA and environmental liabilities) and that are not otherwise prohibited under this Agreement, except to the extent the assumption of such liabilities could not reasonably be expected to result in a Material Adverse Effect; provided that if such assumed liabilities exceed $500,000 in the aggregate, the Administrative Agent shall have consented in writing to such Acquisition in its sole discretion. Any other such Indebtedness, liabilities or Liens not permitted to be assumed, continued or otherwise supported by any Obligor or Subsidiary thereof hereunder shall be paid in full or released within thirty (30) days after the acquisition date (or such longer period of time as agreed by the Administrative Agent in its sole discretion) as to the business, Persons or properties being so acquired on or before the consummation of such Acquisition;

(j) such Acquisition is located entirely within the United States of America; and

(k) such Acquisition is of assets, Equity Interests, businesses, Persons or products engaged in a line of business reasonably related, incidental or complementary to that of the Borrower or its Subsidiaries or reasonable expansions or extensions thereof.

"***Permitted Cash Equivalent Investments***" means (a) marketable direct obligations issued or unconditionally guaranteed by the United States or any member states of the European Union or any agency or any state thereof having maturities of not more than two (2) years from the date of acquisition, (b) commercial paper maturing no more than three hundred sixty five (365) days after the date of acquisition thereof and having the highest rating from either Standard & Poor's Ratings Group or Moody's Investors Service, Inc., (c) certificates of deposit maturing no more than two (2) years after issue that are issued by any bank organized under the Laws of the United States, or any state thereof, or the District of Columbia, or any U.S. branch of a foreign bank having, at the date of acquisition thereof, combined capital and surplus of not less than $500,000,000, (d) any money market or similar funds that exclusively hold any of the foregoing, and (e) other short term liquid investments approved in writing by the Administrative Agent in its sole discretion.

"***Permitted Hedging Agreement***" means a Hedging Agreement entered into by any Obligor in such Obligor's Ordinary Course, in an aggregate notional amount for all such Hedging Agreements not in excess of $1,000,000.

"***Permitted Indebtedness***" means any Indebtedness permitted under **Section 9.01**.

"***Permitted Licenses***" means: (a) non-exclusive licenses of off-the-shelf software or software as a service that is commercially available to the public, (b) intercompany licenses, sublicenses or grants of rights for development, manufacture, production, commercialization (including commercial sales to end users), marketing, promotion, co-promotion, sales or distribution, in each case, solely among the Obligors, (c) any inbound non-exclusive license or sublicense for the use of (or covenant not to sue with respect to) Intellectual Property of any third party entered into in the Ordinary Course, (d) any outbound non-exclusive license or sublicense for the use of (or covenant not to sue with respect to) Intellectual Property of any Obligor for development, manufacture, production, commercialization (including commercial sales to end users), marketing, promotion, co-promotion, sales or distribution of any Product or ancillary to the receipt of services from a third party; provided, that, with respect to each such license or grant described in **clause (d)** above, (i) such license, sublicense or grant is entered into in the Ordinary Course, (ii) no Event of Default has occurred or is continuing at the time of execution of such license or sublicense, (iii) such license, sublicense or grant does not restrict the ability of Borrower or any of its Subsidiaries, as applicable, to pledge, grant a security interest in or lien on, or assign or otherwise dispose of any of its Intellectual Property and (iv) such license, sublicense or grant constitutes an Arm's Length Transaction, the terms of which do not provide for a sale, assignment or transfer of title of Intellectual Property of Obligor, (e) other licenses to which the Administrative Agent shall have consented to in writing in its reasonable discretion and (f) with the consent of Administrative Agent in writing (such consent not to be unreasonably withheld, delayed or conditioned), exclusive licenses (whether exclusive as to geographical scope or otherwise) for the use of the Intellectual Property of Borrower or any of its Subsidiaries within the United States; provided, that, with respect to such license described in this **clause (f)**, (i) any such license could not result in a legal transfer of title of the licensed property; (ii) no Event of Default has occurred or is continuing at the time of execution of such license or sublicense; and (iii) such license constitutes an Arm's Length Transaction, the terms of which do not provide for a sale or assignment.

"***Permitted Liens***" means any Liens permitted under **Section 9.02**.

"***Permitted Refinancing***" means, with respect to any Indebtedness permitted to be refinanced, extended, renewed or replaced hereunder, any refinancings, extensions, renewals and replacements of such Indebtedness; provided that such refinancing, extension, renewal or replacement shall not (i) increase the outstanding principal amount of the Indebtedness being refinanced, extended, renewed or replaced, except by an amount equal to accrued interest and a reasonable premium on the debt being refinanced or other reasonable and customary fees and expenses reasonably incurred in connection therewith, (ii) contain terms relating to outstanding principal amount, amortization, maturity, collateral security (if any) or subordination (if any), or other material terms that, taken as a whole, are less favorable in any material respect to the Obligors and their respective Subsidiaries or the Secured Parties than the terms of any agreement or instrument governing such existing Indebtedness, (iii) have an applicable interest rate which does not exceed the greater of (A) the rate of interest of the Indebtedness being replaced and (B) the then applicable market interest rate, (iv) contain any new requirement to grant any Lien or to give any Guarantee that was not an existing requirement of such Indebtedness and (v) immediately after giving effect to such refinancing, extension, renewal or replacement, no Default or Event of Default shall have occurred and be continuing or could reasonably be expected to occur as a result thereof.

"***Person***" means any individual, corporation, company, voluntary association, partnership, limited liability company, joint venture, trust, unincorporated organization or Governmental Authority or other entity of whatever nature.

"***PMA Approval***" means the authority to sell a medical device in the United States granted by the FDA pursuant to 21 Code of Federal Regulations Part 814, as amended.

"***Post-Market Actions***" has the meaning set forth in **Section 7.17(c)**.

"***Prepayment Price***" has the meaning set forth in **Section 3.03(a)(i)**.

"***Principal Payment Date***" means (i) the first Payment Date to occur after the third (3rd) anniversary of the Closing Date (the "***Amortization Date***"); provided that if the Milestone has occurred on or prior to such date, at the Borrower's election, the Amortization Date shall be extended to the first Payment Date to occur after the fourth (4th) anniversary of the Closing Date, (ii) thereafter, each Payment Date and, if applicable, and (iii) the Maturity Date.

"***Pro Forma Basis***" shall mean, with respect to the calculation of the minimum liquidity under **Section 10.01**, as of any date, that *pro forma* effect will be given to the Transactions, any Acquisition, any issuance, incurrence, assumption or permanent repayment of Indebtedness (including Indebtedness issued, incurred or assumed as a result of, or to finance, any relevant transaction and for which any such minimum liquidity is being calculated), all sales, transfers and other dispositions or discontinuance of any Subsidiary, line of business or division, or any conversion of a Subsidiary Guarantor to a Subsidiary that is not a Subsidiary Guarantor or of an entity that is not a Subsidiary Guarantor to a Subsidiary Guarantor, in each case that have occurred during the period of the Borrower being used to calculate such minimum liquidity (the "***Reference Period***"), or subsequent to the end of the Reference Period but prior to such date or prior to or simultaneously with the event for which a determination under this definition is made (including any such event occurring at an entity that became a Subsidiary after the commencement of the Reference Period), as if each such event occurred on the first day of the Reference Period.

"***Product***" means (a) those products described in reasonable detail on **Schedule 2** attached hereto, and (b) any current or future product (including delivery devices) developed, distributed, dispensed, imported, exported, labeled, promoted, manufactured, licensed, marketed, sold or otherwise commercialized by any Obligor or any of its Subsidiaries, including any such product in development.

"***Product Authorizations***" means any and all Governmental Approvals, whether U.S. or non-U.S. (including all applicable PMA Approvals, 510(k) Clearances, supplements, amendments, pre- and post-approvals, governmental price and reimbursement approvals and approvals of applications for regulatory exclusivity of any Regulatory Authority), in each case, necessary to be held or maintained by, or for the benefit of, any Obligor or any of its Subsidiaries for the ownership, use or commercialization of any Product or for any Product Commercialization and Development Activities with respect thereto in any country or jurisdiction.

"***Product Commercialization and Development Activities***" means, with respect to any Product, any combination of research, development, testing, manufacture, formulation, import, use, sale, licensing, importation, exportation, shipping, storage, handling, design, labeling, marketing, promotion, supply, distribution, packaging, purchasing or other commercialization activities, receipt of payment in respect of any of the foregoing (including, in respect of licensing, royalty or similar payments), or any similar or other activities the purpose of which is to commercially exploit such Product.

"***Product Related Information***" means, with respect to any Product, all books, records, lists, ledgers, files, manuals, correspondence, reports, plans, drawings, data and other information of every kind (in any form or medium), and all techniques, trade secrets and other know-how, owned or possessed by the Obligors or any of their respective Subsidiaries that are necessary or useful for any Product Commercialization and Development Activities relating to such Product, including (i) brand materials and packaging, customer targeting and other marketing, promotion and sales materials and information, referral, customer, supplier and other contact lists and information, product, business, marketing and sales plans, research, studies and reports, sales, maintenance and production records, training materials and other marketing, sales and promotional information and (ii) clinical data, information included or supporting any Product Authorization, any regulatory filings, updates, notices and correspondence (including adverse event and other pharmacovigilance and other post-marketing reports and information, etc.), technical information, product development and operational data and records, and all other documents, records, files, data and other information, used in connection with the Product Commercialization and Development Activities for such Product.

"***Prohibited Payment***" means any bribe, rebate, payoff, influence payment, kickback or other payment or gift of money or anything of value (including meals or entertainment) to any officer, employee or ceremonial office holder of any government or instrumentality thereof, political party or supra-national organization (such as the United Nations), any political candidate, any royal family member or any other person who is connected or associated personally with any of the foregoing that is prohibited under any Law for the purpose of influencing any act or decision of such payee in his official capacity, inducing such payee to do or omit to do any act in violation of his lawful duty, securing any improper advantage or inducing such payee to use his influence with a government or instrumentality thereof to affect or influence any act or decision of such government or instrumentality.

"***Proportionate Share***" means, with respect to any Lender, the percentage obtained by dividing (a) the sum of the unfunded Commitments of such Lender that remain outstanding, plus the aggregate outstanding principal amount of the Loans of such Lender then in effect by (b) the sum of the unfunded Commitments of all Lenders that remain outstanding, plus the aggregate outstanding principal amount of the Loans of all Lenders then in effect.

"***Public Lender***" has the meaning set forth in **Section 8.01(p)**.

"***Public Lender Notice***" has the meaning set forth in **Section 8.01(p)**.

"***Qualified Equity Financing***" means any primary equity financing, or series of financings, after the Closing Date by the Borrower to a bona fide third party or third parties in which the Borrower issues Qualified Equity Interests.

"***Qualified Equity Interest***" means, with respect to any Person, any Equity Interest of such Person that is not a Disqualified Equity Interest.

"***Qualified Financing Proceeds***" means the aggregate of each of the following financing proceeds received: (i) any net cash proceeds received in connection with any Qualified Equity Financing, (ii) any net cash proceeds received by the Borrower in connection with the issuance of Subordinated Debt convertible into Qualified Equity Interests that is broadly marketed or offered to multiple investors (other than the proceeds received from the Existing Convertible Notes), and (iii) any upfront net cash payments received by the Borrower pursuant to any business development transaction.

"***Qualified IPO***" means an underwritten initial public offering of the Common Stock of Borrower which generates net cash proceeds of at least $60,000,000 and results in a listing of such Equity Interests on a Recognized Exchange.

"***Qualified Plan***" means an employee pension benefit plan (as defined in Section 3(2) of ERISA) other than a Multiemployer Plan (i) that is or was at any time within the preceding five years maintained or sponsored by any Obligor or any ERISA Affiliate or to which any Obligor or any ERISA Affiliate has within the preceding five years ever made, or was within the preceding five years ever obligated to make, contributions, and (ii) that is intended to be tax qualified under Section 401(a) of the Code.

"***Real Property Security Documents***" means any Mortgages, landlord consents or bailee letters.

"***Recipient***" means any Lender or any other recipient of any payment to be made by or on account of any Obligation.

"***Recognized Exchange***" means the New York Stock Exchange, the Nasdaq Global Market, Nasdaq Global Select Market or the Nasdaq Capital Market.

"***Reference Period***" has the meaning set forth in the definition of "Pro Forma Basis".

"***Register***" has the meaning set forth in **Section 14.05(d)**.

"***Regulation T***" means Regulation T of the Board of Governors of the Federal Reserve System, as amended.

"***Regulation U***" means Regulation U of the Board of Governors of the Federal Reserve System, as amended.

"***Regulation X***" means Regulation X of the Board of Governors of the Federal Reserve System, as amended.

"***Regulatory Authority***" means any Governmental Authority, whether U.S. or non-U.S., that has regulatory or supervisory oversight under applicable Laws with respect to any Product or any Product Commercialization and Development Activities including the FDA and all equivalent Governmental Authorities, whether U.S. or non-U.S.

"***Reinvestment***" has the meaning set forth in **Section 3.03(b)(i)**.

"***Reinvestment Period***" has the meaning set forth in **Section 3.03(b)(i)**.

"***Rejuva***" means the product further described on **Schedule 2** attached hereto.

"***Related Parties***" has the meaning set forth in **Section 14.16**.

"***Resignation Effective Date***" has the meaning set forth in **Section 12.09(a)**.

"***Resolution Authority***" means an EEA Resolution Authority or, with respect to any U.K. Financial Institution, a U.K. Resolution Authority.

"***Responsible Officer***" of any Person means each of the president, chief executive officer, chief financial officer, treasurer, general counsel, or senior vice president, finance of such Person.

"***Restricted Payment***" means any dividend, distribution or other payment (whether in cash, Equity Interests or other property) with respect to, or on account of, any Equity Interests of any Obligor or any of its Subsidiaries, or any payment (whether in cash, Equity Interests or other property), including any sinking fund or similar deposit, on account of the purchase, redemption, retirement, acquisition, cancellation or termination of any such Equity Interests of any Obligor or any of its Subsidiaries, or on account of any return of capital to any Obligor or any of its Subsidiary's stockholders, partners or members (or the equivalent of any thereof), any payment of interest, principal or fees in respect of any Indebtedness owed by any Obligor or any of its Subsidiaries to any holder of any Equity Interests of any Obligor or any of its Subsidiaries or any option, warrant or other right to acquire any such Equity Interests of any Obligor or any of its Subsidiaries; provided, that any payments on Indebtedness convertible or exchangeable into Equity Interests shall not be Restricted Payments.

"***Restrictive Agreement***" means any Contract or other arrangement that prohibits, restricts or imposes any condition upon (a) the ability of any Obligor or any of its Subsidiaries to create, incur or permit to exist any Lien upon any of its properties or assets (other than (x) customary provisions in Contracts restricting the assignment thereof (including any leases and in-bound licenses of Intellectual Property) and (y) restrictions or conditions imposed by any Contract governing secured Permitted Indebtedness permitted under **Section 9.01(i)**, to the extent that such restrictions or conditions apply only to the property or assets securing such Indebtedness), or (b) the ability of any Obligor or any of its Subsidiaries to make Restricted Payments with respect to any of their respective Equity Interests or to make or repay loans or advances to any other Obligor or any of its Subsidiaries or such other Obligor or to Guarantee Indebtedness of any other Obligor or any of its Subsidiaries thereof or such other Obligor.

"***Revita***" means the product further described on **Schedule 2** attached hereto.

"***Sanction***" means any international economic or financial sanction or trade embargo imposed, administered or enforced from time to time by the United States Government (including OFAC), the United Nations Security Council, the European Union or its Member States, His Majesty's Treasury, the People's Republic of China, the Government of France, or other relevant sanctions authority where the Borrower or any of its Subsidiaries is located or conducts business.

"***Sanctioned Person***" means, at any time, (a) any Person listed in any Sanctions-related list of designated Persons maintained by the United States Government (including OFAC), the United Nations Security Council, the European Union or its Member States, His Majesty's Treasury, the People's Republic of China, the Government of France, or other relevant sanctions authority, (b) any Person organized or resident in a Designated Jurisdiction or (c) any Person fifty percent (50%) or more owned or is controlled by any such Person or Persons described in the foregoing **clauses (a)** or **(b)**.

"***Secured Parties***" means the Lenders, the Administrative Agent and any of their respective permitted transferees or assigns.

"***Securities Act***" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

"***Security Agreement***" means the Security Agreement, delivered pursuant to **Section 6.01(d)**, among the Obligors and the Administrative Agent, granting a security interest in the Obligors' Collateral in favor of the Administrative Agent, for the benefit of the Secured Parties.

"***Security Documents***" means, collectively, the Security Agreement, each Short-Form IP Security Agreement, the Perfection Certificate, each Real Property Security Document, any Foreign Pledge Agreement and each other security document, control agreement or financing statement required or recommended to perfect Liens in favor of the Secured Parties for purposes of securing the Obligations.

"***Short-Form IP Security Agreements***" means short-form Copyright, Patent or Trademark (as the case may be) security agreements substantially in the form of **Exhibits C**, **D** and **E** to the Security Agreement, entered into by one or more Obligors in favor of the Secured Parties, each in form and substance reasonably satisfactory to the Administrative Agent (and as amended, modified or replaced from time to time).

"***Solvent***" means, as to any Person as of any date of determination, that on such date (a) the fair value of the assets of such Person is greater than the total amount of liabilities, including contingent liabilities, of such Person, (b) the present fair saleable value of such Person is not less than the amount that will be required to pay the probable liability of such Person on its debts as they become absolute and matured in the Ordinary Course, (c) such Person does not intend to, and does not believe that it will, incur debts or liabilities beyond such Person's ability to pay such debts and liabilities as they mature in the Ordinary Course and (d) such Person is not engaged in a business or transaction, and is not about to engage in a business or transaction, for which such Person's property would constitute an unreasonably small capital after giving due consideration to the prevailing practice in the industry in which such Person is engaged or is to engage. The amount of any contingent liability at any time shall be computed as the amount that, in light of all of the facts and circumstances existing at such time, represents the amount that can reasonably be expected to become an actual or matured liability.

"***Subordinated Debt***" means Indebtedness on terms and to holders reasonably satisfactory to Administrative Agent and incurred by Borrower that is subordinated in writing to all of the Obligations, pursuant to a Subordination Agreement.

"***Subordination Agreement***" means any subordination agreement in form and substance reasonably satisfactory to Administrative Agent entered into from time to time with respect to Subordinated Debt.

"***Subsidiary***" means, with respect to any Person (the "***parent***") at any date, any corporation, limited liability company, partnership, association or other entity the accounts of which would be consolidated with those of the parent in the parent's consolidated financial statements if such financial statements were prepared in accordance with GAAP as of such date, as well as any other corporation, limited liability company, partnership, association or other entity (i) of which securities or other ownership interests representing more than fifty percent (50%) of the equity or more than fifty percent (50%) of the ordinary voting power or, in the case of a partnership, more than fifty percent (50%) of the general partnership interests are, as of such date, owned, controlled or held, directly or indirectly, or (ii) that is, as of such date, otherwise Controlled, by the parent or one or more direct or indirect subsidiaries of the parent or by the parent and one or more direct or indirect subsidiaries of the parent. Unless otherwise specified, all references herein to a "Subsidiary" or to "Subsidiaries" shall refer to a Subsidiary or Subsidiaries of the Borrower.

"***Subsidiary Guarantors***" means each Subsidiary of the Borrower identified on the signature pages hereto as a "Subsidiary Guarantor" and each Subsidiary of the Borrower that becomes, or is required to become, a "Subsidiary Guarantor" after the date hereof pursuant to **Section 8.12(a)** or **8.12(b)**; provided, that the "Subsidiary Guarantors" shall not include any MSC Subsidiary.

"***Symbiotic***" has the meaning set forth in the preamble hereto.

"***Taxes***" means all present or future taxes, levies, imposts, duties, deductions, withholdings (including backup withholding), assessments, fees or other charges imposed by any Governmental Authority, including any interest, additions to tax or penalties applicable thereto.

"***Technical Information***" means all Product Related Information and, with respect to any Products or Product Commercialization and Development Activities, all related know-how, trade secrets and other proprietary or confidential information, any information of a scientific, technical, or business nature in any form or medium, Invention disclosures, all documented research, developmental, demonstration or engineering work, algorithms, concepts, data, databases, designs, discoveries, methods, processes, protocols, chemistries, compositions, show-how, specifications for Products, techniques, technology, and all improvements thereof and thereto, and all other technical data and information related thereto.

"***Termination Conditions***" has the meaning set forth in **Section 13.03**.

"***Title IV Plan***" means any employee pension benefit plan (other than a Multiemployer Plan) (i) that is or was at any time within the preceding five years maintained or sponsored by any Obligor or any ERISA Affiliate or to which any Obligor or any ERISA Affiliate has within the preceding five years ever made, or was within the preceding five years obligated to make, contributions, and (ii) that is or was subject to Section 412 of the Code, Section 302 of ERISA or Title IV of ERISA.

"***Trademarks***" means, whether registered or unregistered, all trade names, trademarks and service marks, trade dress, corporate names, company names, logos, social media accounts, Internet domain names, URLs and other indicia of origin, and all registrations and applications for any of the foregoing, including (i) all renewals therefor and (ii) all rights whatsoever accruing thereunder or pertaining thereto throughout the world, together, in each case, with the common law rights and goodwill associated therewith or symbolized thereby.

"***Tranche A Commitment***" means, with respect to each Lender, the obligation of such Lender to make Tranche A Term Loans to the Borrower on the Closing Date in accordance with the terms and conditions of this Agreement, which commitment is in the amount set forth opposite such Lender's name in the Loans Schedule under the caption "Applicable Commitment" for Tranche A Term Loans, as such Schedule may be amended from time to time pursuant to an Assignment and Assumption or otherwise. The aggregate amount of Tranche A Commitments on the date of this Agreement equals $30,000,000.

"***Tranche A Funding Condition***" has the meaning set forth in the Loans Schedule.

"***Tranche A Term Loans***" has the meaning assigned to such term in **Section 2.01(a)(i)**.

"***Tranche B Availability Period***" has the meaning set forth in the Loans Schedule.

"***Tranche B Commitment***" means, with respect to each Lender, the obligation of such Lender to make Tranche B Term Loans to the Borrower on the Applicable Funding Date for Tranche B Term Loans in accordance with the terms and conditions of this Agreement, which commitment is in the amount set forth opposite such Lender's name in the Loans Schedule under the caption "Applicable Commitment" for Tranche B Term Loans, as such Schedule may be amended from time to time pursuant to an Assignment and Assumption or otherwise. The aggregate amount of Tranche B Commitments on the date of this Agreement equals $15,000,000.

"***Tranche B Funding Condition***" has the meaning set forth in the Loans Schedule.

"***Tranche B Term Loans***" has the meaning assigned to such term in **Section 2.01(a)(ii)**.

"***Tranche C Amount***" means, with respect to each Lender, an amount not to exceed the amount set forth opposite such Lender's name in the Loans Schedule under the caption "Applicable Amount" for Tranche C Term Loans, as such Schedule may be amended from time to time pursuant to an Assignment and Assumption or otherwise.

"***Tranche C Availability Period***" has the meaning set forth in the Loans Schedule.

"***Tranche C Commitment***" means, with respect to each Lender, the obligation of such Lender to make Tranche C Term Loans to the Borrower on the Applicable Funding Date for Tranche C Term Loans in accordance with the terms and conditions of this Agreement. As of the Closing Date, the Tranche C Commitment is zero. Following receipt by (a) the Administrative Agent and the Borrower of a written notice from a Lender or an affiliate of a Lender committing to fund all or a portion of the Tranche C Term Loans and join this Agreement as a Lender (if applicable) in an amount not to exceed such Lender's Tranche C Amount, in each case, by June 30, 2025 and (b) the Borrower and the applicable Lender or affiliate of a Lender of Administrative

Agent's approval of such Tranche C Commitment in its sole discretion, this defined term shall be automatically deemed to include such Lender's commitment specified in such notice from such Lender as its Tranche C Commitment; provided that, notwithstanding anything herein to the contrary, any Lender's refusal to provide such written notice to commit to fund all or a portion of Tranche C Term Loans equal to its Tranche C Amount shall not cause such Lender to be a Defaulting Lender, Non-Consenting Lender or Affected Lender.

"***Tranche C Term Loans***" has the meaning assigned to such term in **Section 2.01(a)(iii)**.

"***Tranches***" means, collectively, the Tranche A Term Loans, the Tranche B Term Loans and the Tranche C Term Loans.

"***Transactions***" means (a) the negotiation, preparation, execution, delivery and performance by each Obligor of this Agreement and the other Loan Documents to which such Obligor is (or is intended to be) a party, the making of the Loans hereunder, and all other transactions contemplated pursuant to this Agreement and the other Loan Documents, including the creation of the Liens pursuant to the Security Documents, (b) the issuance of Warrants and (c) the payment of all fees and expenses incurred or paid by the Obligors in connection with the foregoing.

"***Treasury Regulations***" means the income tax regulations, including temporary and proposed regulations, promulgated under the Code by the United States Treasury, as such regulations may be amended from time to time (including corresponding provisions of succeeding regulations).

"***UCC***" means, with respect to any applicable jurisdictions, the Uniform Commercial Code as in effect in such jurisdiction, as may be modified from time to time.

"***U.K. Financial Institution***" means any BRRD Undertaking (as such term is defined under the PRA Rulebook (as amended form time to time) promulgated by the United Kingdom Prudential Regulation Authority) or any person falling within IFPRU 11.6 of the FCA Handbook (as amended from time to time) promulgated by the United Kingdom Financial Conduct Authority, which includes certain credit institutions and investment firms, and certain affiliates of such credit institutions or investment firms.

"***U.K. Resolution Authority***" means the Bank of England or any other public administrative authority having responsibility for the resolution of any U.K. Financial Institution.

"***United States***" or "***U.S.***" means the United States of America, its fifty states and the District of Columbia.

"***U.S. Person***" means a "United States Person" within the meaning of Section 7701(a)(30) of the Code.

"***U.S. Tax Compliance Certificate***" has the meaning set forth in **Section 5.03(f)(ii)(B)(3)**.

"***Warrants***" means those certain Warrants, dated as of the Closing Date, delivered to each of the Lenders (or their designated Affiliates) pursuant to **Section 6.01(r)**, in substantially the form attached hereto as **Exhibit K**, which shall be in form and substance satisfactory to Administrative Agent and the Lenders.

"***Withholding Agent***" means the Borrower and the Administrative Agent.

"***Write-Down and Conversion Powers***" means, (a) with respect to any EEA Resolution Authority, the write-down and conversion powers of such EEA Resolution Authority from time to time under the Bail-In Legislation for the applicable EEA Member Country, which write-down and conversion powers are described in the EU Bail-In Legislation Schedule, and (b) with respect to the United Kingdom, any powers of the applicable Resolution Authority under the Bail-In Legislation to cancel, reduce, modify or change the form of a liability of any U.K. Financial Institution or any contract or instrument under which that liability arises, to convert all or part of that liability into shares, securities or obligations of that person or any other person, to provide that any such contract or instrument is to have effect as if a right had been exercised under it or to suspend any obligation in respect of that liability or any of the powers under that Bail-In Legislation that are related to or ancillary to any of those powers.

"***WSJ Prime***" means for any day the rate per annum equal to the rate last quoted by The Wall Street Journal as the "Prime Rate" in the United States or, if The Wall Street Journal ceases to quote such rate, the highest per annum interest rate published by the Federal Reserve Board in Federal Reserve Statistical Release H.15 (Selected Interest Rates) as the "bank prime loan" rate or, if such rate is no longer quoted therein, any similar rate quoted therein (as determined by the Administrative Agent) or any similar release by the Federal Reserve Board (as determined by the Administrative Agent).

"***Yield Protection Premium***" means with respect to any repayment or prepayment of all or any portion of the Loans or any requirement to repay or prepay any Loans, whether by optional or mandatory prepayment, acceleration or otherwise (in each case other than any scheduled payments pursuant to **Sections 3.01(a)**) occurring (a) on or prior to March 7, 2026, an amount equal to the amount of interest that would have been paid on the principal amount of the Loans being so repaid or prepaid for the period from and including the date of such repayment or prepayment to but excluding March 7, 2026 (in each case, calculated on the basis of the interest rate with respect to the Loans that is in effect on the date of such repayment or prepayment and on the basis of actual days elapsed over a year of three hundred sixty (360) days), *plus* (b) (i) on or prior to September 7, 2024, an amount equal to four percent (4%) of the principal amount of the Loans being so repaid or prepaid, (ii) at any time after September 7, 2024 but on or prior to September 7, 2025, an amount equal to three percent (3%) of the principal amount of the Loans being so repaid or prepaid, (iii) at any time after September 7, 2025 but on or prior to September 7, 2026, an amount equal to two and one half of one percent (2.5%) of the principal amount of the Loans being so repaid or prepaid or (iv) if the prepayment is made after September 7, 2026, one and one quarter of one percent (1.25%) of the principal amount of the Loans being so repaid or prepaid.

1.02 Accounting Terms and Principles. Unless otherwise specified, all accounting terms used in each Loan Document shall be interpreted, and all accounting determinations and computations thereunder (including under **Section 10** and any definitions used in such calculations) shall be made, in accordance with GAAP. Unless otherwise expressly provided, all financial covenants and defined financial terms shall be computed on a consolidated basis for the

Borrower and its Subsidiaries, in each case without duplication. If the Borrower requests an amendment to any provision hereof to eliminate the effect of (a) any change in GAAP or the application thereof or (b) the issuance of any new accounting rule or guidance or in the application thereof, in each case, occurring after the date of this Agreement, then the Lenders and Borrower agree that they will negotiate in good faith amendments to the provisions of this Agreement that are directly affected by such change or issuance with the intent of having the respective positions of the Lenders and Borrower after such change or issuance conform as nearly as possible to their respective positions as of the date of this Agreement and, until any such amendments have been agreed upon, (i) the provisions in this Agreement shall be calculated as if no such change or issuance has occurred and (ii) the Borrower shall provide to the Lenders a written reconciliation in form and substance reasonably satisfactory to the Lenders, between calculations of any baskets and other requirements hereunder before and after giving effect to such change or issuance. Notwithstanding any other provision contained herein, (1) all terms of an accounting or financial nature used herein shall be construed, and all computations of amounts and ratios referred to herein shall be made, without giving effect to any election under Financial Accounting Standards Board Accounting Standards Codification 825 (or any other Financial Accounting Standard having a similar result or effect) to value any Indebtedness or other liabilities of any Obligors or any of their respective Subsidiaries at "fair value," as defined therein and (2) unless the Borrower has requested an amendment pursuant to the second paragraph of the definition of "GAAP" with respect to the treatment of operating leases and capitalized lease obligations under GAAP and until such amendment has become effective, all obligations of any Person that are or would have been treated as operating leases for purposes of GAAP prior to the issuance by the Financial Accounting Standards Board on February 25, 2016 of an Accounting Standards Update (the "***ASU***") shall continue to be accounted for as operating leases for purposes of all financial definitions and calculations for purpose of this Agreement (whether or not such operating lease obligations were in effect on such date) notwithstanding the fact that such obligations are required in accordance with the ASU (on a prospective or retroactive basis or otherwise) to be treated as Capital Lease Obligations in the financial statements to be delivered pursuant to **Section 8.01**.

1.03 Interpretation. For all purposes of this Agreement, except as otherwise expressly provided herein or unless the context otherwise requires,

(a) the terms defined in this Agreement include the plural as well as the singular and vice versa;

(b) words importing gender include all genders;

(c) any reference to a Section, Annex, Schedule or Exhibit refers to a Section of, or Annex, Schedule or Exhibit to, this Agreement;

(d) any reference to "this Agreement" refers to this Agreement, including all Annexes, Schedules and Exhibits hereto, and the words herein, hereof, hereto and hereunder and words of similar import refer to this Agreement and its Annexes, Schedules and Exhibits as a whole and not to any particular Section, Annex, Schedule, Exhibit or any other subdivision;

(e) references to days, months and years refer to calendar days, months and years, respectively;

(f) all references herein to "include" or "including" shall be deemed to be followed by the words "without limitation";

(g) the word "from" when used in connection with a period of time means "from and including" and the word "until" means "to but not including";

(h) the words "asset" and "property" shall be construed to have the same meaning and effect and to refer broadly to any and all assets and properties, whether tangible or intangible, real or personal, including cash, securities, rights under contractual obligations and permits and any right or interest in any such assets or property;

(i) accounting terms not specifically defined herein (other than "property" and "asset") shall be construed in accordance with GAAP, subject to **Section 1.02**;

(j) the word "will" shall have the same meaning as the word "shall";

(k) where any provision in this Agreement or any other Loan Document refers to an action to be taken by any Person, or an action which such Person is prohibited from taking, such provision shall be applicable whether such action is taken directly or, to the knowledge of such Person, indirectly;

(l) references to any Lien granted or created hereunder or pursuant to any other Loan Document securing any Obligations shall deemed to be a Lien for the benefit of the Secured Parties; and

(m) all references to the time of day shall be a reference to Pacific time.

Unless otherwise expressly provided herein, references to organizational documents, agreements (including the Loan Documents) and other contractual instruments shall be deemed to include all subsequent amendments, restatements, extensions, supplements and other modifications thereto permitted by the Loan Documents. Any definition or reference to any Law shall include all statutory and regulatory provisions consolidating, amending, replacing, supplementing or interpreting such Law.

For purposes of determining compliance with any covenant (including the computation of any financial covenant) contained herein, Indebtedness of the Obligors and their Subsidiaries shall be deemed to be equal to 100% of the outstanding principal amount thereof or payment obligations with respect thereto at the time of determination thereof, or with respect to any Hedging Agreements, the amount that would be payable if the agreement governing such Hedging Agreements were terminated on the date of termination.

1.04 Division. For all purposes under the Loan Documents, in connection with any division or plan of division under Delaware law (or any comparable event under a different jurisdiction's laws) (a "***Division***"), if (a) any asset, right, obligation or liability of any Person becomes the asset, right, obligation or liability of a different Person, then it shall be deemed to have been transferred from the original Person to the subsequent Person, and (b) any new Person comes into existence, such new Person shall be deemed to have been organized on the first date of its existence by the holders of its Equity Interests at such time.

1.05 Currency Generally. For purposes of determining compliance with **Section 9** with respect to the amount of any Indebtedness or Investment in a currency other than Dollars, no Default or Event of Default shall be deemed to have occurred solely as a result of changes in rates of currency exchange occurring after the time such Indebtedness or Investment is incurred, made or acquired (so long as such Indebtedness or Investment, at the time incurred, made or acquired, was permitted hereunder).

SECTION 2.
THE COMMITMENT AND THE LOANS

2.01 Loans.

(a) On the terms and subject to the conditions of this Agreement, each Lender agrees:

(i) to make Loans to the Borrower in a principal amount equal to the amount of such Lender's Tranche A Commitment ("***Tranche A Term Loans***"), on the Closing Date;

(ii) to make Loans to the Borrower in a principal amount equal to the amount of such Lender's Tranche B Commitment ("***Tranche B Term Loans***"), on a date specified by the Borrower in accordance with **Section 2.02** during the Applicable Availability Period for the Tranche B Term Loans; and

(iii) to make Loans to the Borrower in a principal amount up to such Lender's Tranche C Commitment ("***Tranche C Term Loans***"), on a date specified by the Borrower in accordance with **Section 2.02** during the Applicable Availability Period for the Tranche C Term Loans.

(b) No amounts paid or prepaid with respect to any Loan may be reborrowed.

(c) Any term or provision hereof (or of any other Loan Document) to the contrary notwithstanding, Loans made to the Borrower shall be denominated solely in Dollars and shall be repayable solely in Dollars and no other currency.

2.02 Borrowing Procedures. (a) Prior to 12:00 p.m. at least ten (10) Business Days (or such shorter period agreed by the Administrative Agent) prior to the Closing Date, for a Borrowing of Tranche A Term Loans occurring on the Closing Date, and (b) prior to 12:00 p.m. at least ten (10) Business Days prior to any Applicable Funding Date (or, in each case, such shorter period agreed by the Administrative Agent), the Borrower shall deliver to the Administrative Agent an irrevocable Borrowing Notice in the form of **Exhibit B** signed by a duly authorized representative of the Borrower (which notice, if received by the Administrative Agent on a day that is not a Business Day or after 12:00 p.m. on a Business Day, may be deemed to have been delivered on the next Business Day). Each Borrowing Notice shall specify (i) the requested date of the Borrowing (which shall be a Business Day), (ii) the Tranche of term loans to be borrowed, (iii) the principal amount of applicable term loans to be borrowed, and (iv) the Borrower's wire instructions (except to the extent there is a separate direction letter signed by a Responsible Officer of the Borrower providing such wire instructions).

2.03 Funding of Borrowings. Promptly following receipt of any written Borrowing Notice the Administrative Agent shall advise each Lender of the details thereof and of the amount of such Lender's Loan to be made as part of the requested Borrowing on a pro rata basis in accordance with such Lender's commitment set forth on the Loans Schedule. Each Lender shall make each Loan to be made by it hereunder on the proposed date thereof solely by wire transfer of immediately available funds, by 2:00 p.m., to the Borrower promptly by wire transfer of the amounts so received, in like funds, to an account designated by the Borrower in the applicable Borrowing Notice.

2.04 Notes. If requested by any Lender, the Loan of such Lender shall be evidenced by one or more Notes. The Borrower shall prepare, execute and deliver to the Lender such promissory note(s) substantially in the form attached hereto as **Exhibit A**.

2.05 Use of Proceeds. The Borrower shall use the proceeds of the Loans for general corporate purposes, including the payment of fees and expenses associated with this Agreement, but excluding shareholder and equivalent dividends, distributions and share repurchases.

2.06 Defaulting Lenders.

(a) **Adjustments**. Notwithstanding anything to the contrary contained in this Agreement, if any Lender becomes a Defaulting Lender, then, until such time as that Lender is no longer a Defaulting Lender, to the extent permitted by applicable Law:

(i) **Waivers and Amendment**. The Defaulting Lender's right to approve or disapprove any amendment, waiver or consent with respect to this Agreement shall be restricted as set forth in **Section 14.04**.

(ii) **Reallocation of Payments**. Any payment of principal, interest, fees or other amounts received by the Administrative Agent for the account of that Defaulting Lender (whether voluntary or mandatory, at maturity, pursuant to **Section 11** or otherwise, and including any amounts made available to the Administrative Agent by that Defaulting Lender pursuant to **Section 4.03**), shall be applied at such time or times as may be determined by the Administrative Agent as follows: first, to the payment of any amounts owing by that Defaulting Lender to the Administrative Agent hereunder; second, as the Borrower may request (so long as no Default or Event of Default exists), to the funding of any Loan in respect of which that Defaulting Lender has failed to fund its portion thereof as required by this Agreement, as determined by the Administrative Agent; third, if so determined by the Administrative Agent and the Borrower, to be held in a non-interest bearing deposit account and released in order to satisfy obligations of that Defaulting Lender to fund Loans under this Agreement; fourth, to the payment of any amounts owing to the Lenders as a result of any judgment of a court of competent jurisdiction obtained by any Lender against that Defaulting Lender as a result of that Defaulting Lender's breach of its obligations under this Agreement; fifth, so long as no Default or Event of Default exists, to the payment of any amounts owing to the Borrower as a result of any judgment of a court of competent jurisdiction obtained by the Borrower against that Defaulting Lender as a result of that Defaulting Lender's breach of its obligations under this Agreement; and sixth, to that Defaulting Lender or as otherwise directed by a court of competent jurisdiction; provided, that, if (x) such payment is a payment of the principal amount of any Loans in respect of which that Defaulting Lender has not

fully funded its appropriate share and (y) such Loans were made at a time when the conditions set forth in **Section 6.02** were satisfied or waived, such payment shall be applied solely to pay the Loans of all non-Defaulting Lenders on a pro rata basis prior to being applied to the payment of any Loans of that Defaulting Lender. Any payments, prepayments, repayments or other amounts paid or payable to a Defaulting Lender that are applied (or held) to pay amounts owed by a Defaulting Lender pursuant to this **Section 2.06(a)(ii)** shall be deemed paid to and redirected by that Defaulting Lender, and each Lender irrevocably consents hereto.

(b) **Defaulting Lender Cure**. If the Borrower and the Administrative Agent agree in writing in their sole discretion that a Defaulting Lender should no longer be deemed to be a Defaulting Lender, the Administrative Agent will so notify the parties hereto, whereupon as of the effective date specified in such notice and subject to any conditions set forth therein, such Lender will, to the extent applicable, purchase at par that portion of the outstanding Loans of the other Lenders or take such other actions as Administrative Agent may determine to be necessary to cause the Loans to be held by the Lenders in accordance with each Lender's Proportionate Share, whereupon that Lender will cease to be a Defaulting Lender; provided, that, no adjustments will be made retroactively with respect to fees accrued or payments made by or on behalf of the Borrower while that Lender was a Defaulting Lender; provided, further, that, except to the extent otherwise expressly agreed by the affected parties, no change hereunder from Defaulting Lender to Lender will constitute a waiver or release of any claim of any party hereunder arising from that Lender having been a Defaulting Lender.

(c) **Certain Fees**. No Defaulting Lender shall be entitled to receive any upfront fee set forth in the Fee Letter for any period during which that Lender is a Defaulting Lender (and the Borrower shall not be required to pay any such upfront fee that otherwise would have been required to have been paid to that Defaulting Lender).

2.07 Substitution of Lenders.

(a) **Substitution Right**. If any Lender (an "***Affected Lender***"), (i) becomes a Defaulting Lender or (ii) does not consent to any amendment, waiver or consent to any Loan Document for which the consent of the Majority Lenders is obtained but that requires the consent of other Lenders (a "***Non-Consenting Lender***"), then either the Borrower or the Administrative Agent may, at Borrower's sole cost and expense, identify any willing Lender or Affiliate of any Lender or Eligible Transferee (in each case, a "***Substitute Lender***") to substitute for such Affected Lender.

(b) **Procedure**. To substitute such Affected Lender the Borrower shall deliver a notice to such Affected Lender. The effectiveness of such substitution shall be subject to the delivery by the Substitute Lender of payment for the account of such Affected Lender, of, to the extent accrued through, and outstanding on, the effective date for such substitution, all Obligations owing to such Affected Lender (which for the avoidance of doubt, shall not include any Prepayment Price) and an Assignment and Assumption executed by the Substitute Lender, the Administrative Agent and the Borrower, which shall thereunder, among other things, provide that the Substitute Lender agree to be bound by the terms of the Loan Documents.

(c) **Effectiveness**. Upon satisfaction of the conditions set forth in **Sections 1.01(a)** and **(b)**, Administrative Agent shall record such substitution in the Register, whereupon the Affected Lender shall sell and be relieved of, and the Substitute Lender shall purchase and assume, all rights and claims of such Affected Lender under the Loan Documents, except that the Affected Lender shall retain such rights under the Loan Documents that expressly provide that they survive the repayment of the Obligations and the termination of the Commitments, (B) such Affected Lender shall no longer constitute a "Lender" hereunder and such Substitute Lender shall become a "Lender" hereunder and (C) such Affected Lender shall execute and deliver an Assignment and Assumption to evidence such substitution; provided, however, that the failure of any Affected Lender to execute any such Assignment and Assumption shall not render such sale and purchase (or the corresponding assignment) invalid.

SECTION 3.
PAYMENTS OF PRINCIPAL AND INTEREST, ETC.

3.01 Scheduled Repayments and Prepayments Generally; Application.

(a) **Scheduled Repayments and Prepayments**. The Borrower hereby promises to pay in cash to each Lender (as such amounts may in each case be reduced from time to time in accordance with **Section 3.03**): (i) on each Principal Payment Date, an amount equal to one and one-half percent (1.5%) of the maximum aggregate principal amount of Loans outstanding as of such Principal Payment Date and (ii) on the Maturity Date, all outstanding Obligations (other than inchoate indemnity and expense reimbursement obligations for which no claim has been made) in full, in each case of **clauses (i)** and **(ii)**, together with the Exit Fee with respect to the principal amount of the Loans being repaid, accrued and unpaid interest and any other accrued and unpaid charges thereon and all other obligations due and payable by the Borrower under this Agreement. No Yield Protection Premium shall be due in connection with any repayment made under this **Section 3.01(a)**.

(b) **Application of Payments**. Except as otherwise provided in this Agreement, each payment pursuant to this **Section 3.01** (including each repayment and prepayment) by the Borrower (other than fees payable pursuant to the Fee Letter) shall be made ratably in accordance with the Lenders' Proportionate Shares and applied ratably among each tranche of the Loans. On any date occurring prior to the Maturity Date that payment or prepayment in full of the Loans hereunder occurs, the Borrower shall pay in full all outstanding Obligations (other than inchoate indemnity and expense reimbursement obligations for which no claim has been made), which shall include the Yield Protection Premium, if applicable, and the Exit Fee.

3.02 Interest.

(a) **Interest Generally**. The outstanding principal amount of the Loans shall accrue interest from the date made to (but excluding) the date of repayment (whether by acceleration or otherwise and whether voluntary or mandatory) at the Interest Rate.

(b) **Default Interest**. Notwithstanding the foregoing, upon the occurrence and during the continuance of any Event of Default, the Interest Rate shall increase (i) automatically in the case of any Event of Default under **Sections 11.01(a)**, **11.01(b)** or **11.01(h)**, and (ii) upon the request of the Majority Lenders, in the case of any other Event of Default, by four percent (4%) per annum (the Interest Rate, as increased pursuant to this **Section 3.02(b)**, being the "***Default Rate***"); provided that, with respect to the preceding **clause (ii)**, the Majority Lenders may impose the Default Rate retroactively to the occurrence of such Event of Default within 180 days of the occurrence of such Event of Default, so long as such Event of Default has not been either cured or waived at such time. If any Obligation (including fees, costs and expenses payable hereunder) is not paid when due (giving effect to any applicable grace period) under any applicable Loan Document, the amount thereof shall accrue interest at the Default Rate.

(c) **Interest Payment Dates**. Accrued interest on the Loans shall be payable in arrears on each Payment Date in cash, and upon the payment or prepayment of the Loans (on the principal amount being so paid or prepaid); provided that interest payable at the Default Rate shall also be payable in cash from time to time on demand by any Lender or the Administrative Agent; provided, further, that with respect to any Payment Date occurring on and prior to September 30, 2024, six percent (6.0%) per annum of the interest for the applicable period shall be payable in kind by capitalizing and adding such interest to the outstanding principal amount of the Loans on such Payment Date ("***PIK Interest***") (it being understood that the Borrower may pay any PIK Interest in cash by delivering a written notice to the Administrative Agent by 10:00 a.m. at least six (6) Business Days (or such shorter period as the Administrative Agent may agree) prior to any Payment Date occurring on or prior to September 30, 2024). Such PIK Interest shall be automatically capitalized on the applicable Payment Date by adding the amount thereof to the outstanding principal amount of the Loans. For purposes of this Agreement and the other Loan Documents, the amounts so capitalized pursuant to this **Section 3.02** shall constitute a portion of the principal amount outstanding of the Loans hereunder and shall bear interest in accordance with this **Section 3** and all references herein or in any other Loan Document to the principal amount of the Loans shall include all interest accrued and capitalized as a result of any payment of PIK Interest.

3.03 Prepayments.

(a) **Optional Prepayments**.

(i) Subject to prior written notice pursuant to **clause (ii)** below, the Borrower shall have the right to optionally prepay in whole or in part the outstanding principal amount of the Loans and/or any Tranche thereof on any Business Day for an amount equal to the sum of (A) the aggregate principal amount of the Loans being prepaid, (B) any accrued but unpaid interest on the principal amount of the Loans being prepaid, (C) any applicable Yield Protection Premium, (D) the Exit Fee with respect to the principal amount of the Loans being prepaid and (E) any other unpaid amounts then due and owing pursuant to this Agreement and the other Loan Documents, including any fees, costs, expenses and indemnities (such aggregate amount, the "***Prepayment Price***"); provided that each partial prepayment of principal of Loans shall be in an aggregate amount at least equal to $5,000,000 and integral multiples of $1,000,000 in excess thereof (or, if less, the full remaining outstanding principal amount of the Loans).

(ii) A notice of optional prepayment shall be effective only if received by the Administrative Agent not later than 2:00 p.m. on a date not less than three (3) Business Days prior to the proposed prepayment date; provided that a notice of optional prepayment may state that such notice is conditional upon the effectiveness of other credit facilities or the receipt of the proceeds from the issuance of other Indebtedness or the occurrence of some other identifiable event or condition, in which case such notice of prepayment may be revoked by the Borrower (by notice to the Administrative Agent on or prior to the specified date of prepayment) if such condition is not satisfied. Each notice of optional prepayment shall specify the proposed prepayment date, the Prepayment Price, the principal amount to be prepaid, the applicable tranche or tranches to be prepaid (if a partial prepayment) and any conditions to prepayment (if applicable).

(b) **Mandatory Prepayments**.

(i) **Mandatory Prepayments for Casualty Events or Asset Sales**. Upon the occurrence of any Casualty Event or any Asset Sale (other than pursuant to **Section 9.09(a)**, **(b)**, **(c)**, **(d)**, **(e)**, **(l)**, **(m)**, **(n)** or **(o)**) for which the Net Cash Proceeds from such individual Casualty Event or Asset Sale exceeds $1,000,000, or which causes the aggregate total of Net Cash Proceeds from all such Casualty Events or Asset Sales to exceed $2,000,000, within two (2) Business Days following the receipt of such Net Cash Proceeds, the Borrower shall make a mandatory prepayment of the Loans, together with any accrued but unpaid interest (which for the avoidance of doubt shall be paid in cash) on any principal amount of the Loans being prepaid and any applicable Yield Protection Premium and Exit Fee (collectively, the "***Mandatory Prepayment***"), which Mandatory Prepayment shall be in an amount equal to one hundred percent (100%) of such Net Cash Proceeds received by the Borrower or any of its Subsidiaries with respect to such Asset Sale or insurance proceeds or condemnation awards in respect of such Casualty Event (for the purposes of clarity, in excess of the thresholds set forth herein), as the case may be; provided that, so long as no Default has occurred and is continuing or shall result therefrom, if, within three (3) Business Days following the receipt of such Net Cash Proceeds, a Responsible Officer of the Borrower delivers to the Administrative Agent a written notice to the effect that the Borrower or the applicable Subsidiary intends to apply the Net Cash Proceeds from such Asset Sale (which Net Cash Proceeds, in the case of an Asset Sale, shall be in an aggregate amount of less than $1,000,000, and in the case of a Casualty Event, shall be in an aggregate amount of less than $2,000,000) or insurance proceeds or condemnation awards in respect of such Casualty Event, to reinvest in replacement assets, in the case of a Casualty Event, or long-term assets, in the case of an Asset Sale, of the Borrower or any of its Subsidiaries (a "***Reinvestment***"), then such Net Cash Proceeds of such Asset Sale or insurance proceeds or condemnation awards in respect of such Casualty Event may be applied for such purpose in lieu of such mandatory prepayment to the extent such Net Cash Proceeds of such Asset Sale or insurance proceeds or condemnation awards in respect of such Casualty Event are actually applied for such purpose; provided, further, that, if such Casualty Event or Asset Sale occurs with respect to any Obligor, such Reinvestment shall be made in the business of an Obligor; provided, further, that, in the event that Net Cash Proceeds have not been so applied within one hundred eighty (180) days following the receipt of such Net Cash Proceeds with respect to an Asset Sale or a Casualty Event (such applicable period, the "***Reinvestment Period***") (or, if the Borrower or any of its Subsidiaries has entered into a binding commitment prior to the last day of such Reinvestment Period to reinvest such proceeds no later than ninety-five (95) days following the last day of the Reinvestment Period, ninety-five (95) days after the expiry of the Reinvestment Period), the Borrower shall no later than the end of such period make a Mandatory Prepayment in an aggregate amount equal to one hundred percent (100%) of the unused balance of such Net Cash Proceeds received by any Obligor or any of its Subsidiaries with respect to such Asset Sale or insurance proceeds or condemnation awards in respect of such Casualty Event. Any such Mandatory Prepayment shall include any accrued but unpaid interest on any principal amount of the Loans being prepaid (which for the avoidance of doubt shall be paid in cash) and any applicable Yield Protection Premium and Exit Fee.

(ii) **Mandatory Prepayments for Debt Issuances**. Immediately upon receipt by any Obligor or any of its Subsidiaries of proceeds from any issuance, incurrence or assumption of Indebtedness other than Indebtedness permitted by **Section 9.01**, on or after the Closing Date, the Borrower shall prepay the Loans and other Obligations in an amount equal to 100% of the cash proceeds received, *plus* any accrued but unpaid interest on any principal amount of the Loans being prepaid (which for the avoidance of doubt shall be paid in cash) and any applicable Yield Protection Premium and Exit Fee.

(iii) **Mandatory Prepayment for Change of Control**. Upon the occurrence of any Change of Control, the Borrower shall prepay all of the Loans and Obligations, including any accrued but unpaid interest on the principal amount of the Loans being prepaid (which for the avoidance of doubt shall be paid in cash) and any applicable Yield Protection Premium and Exit Fee.

(iv) [**Reserved**.]

(v) **Notice**. The Borrower shall notify the Administrative Agent not later than 2:00 p.m. on a date not less than three (3) (nor more than five (5)) Business Days prior to any mandatory prepayment (or such shorter agreed by the Administrative Agent). Each notice of mandatory prepayment shall specify the proposed prepayment date, the Prepayment Price for such mandatory prepayment, the principal amount to be prepaid and the subsection under which the prepayment is required.

(c) **Application**. All optional prepayments of the Loans shall be applied in the manner specified by the Borrower at the time of such prepayment, including to any principal installments on the Loans; provided that if not specified by the Borrower, optional prepayments of the Loans shall be applied to principal installments of the Loans in the direct order of maturity. All mandatory prepayments of the Loans shall be applied to principal installments on the Loans in the inverse order of maturity.

(d) **Yield Protection Premium**. Without limiting the foregoing, whenever the Yield Protection Premium is in effect and payable pursuant to the terms hereof or any other Loan Document, such Yield Protection Premium shall be payable on each prepayment of all or any portion of the Loans, whether by optional or mandatory prepayment, acceleration or otherwise (other than any prepayment pursuant to any scheduled amortization payment pursuant to **Section 3.01(a)**).

(e) **Prepayments**. All prepayments shall be accompanied by accrued and unpaid interest on the principal amount of the Loans being prepaid (subject to any interest paid in kind pursuant to **Section 3.02(c)**), and any applicable Yield Protection Premium and Exit Fee.

(f) **Declined Payment**. Notwithstanding anything in this **Section 3.03** to the contrary, any Lender may elect, by notice to the Administrative Agent prior to 12:00 p.m. at least one (1) Business Day prior to the required prepayment date, to decline all or any portion of any mandatory prepayment of its Loans pursuant to this **Section 3.03**, in which case the aggregate amount of the prepayment that would have been applied to prepay Loans but was so declined may be retained by the Borrower and used for any purpose not prohibited by this Agreement.

3.04 Commitment Termination. Each Applicable Commitment shall terminate automatically without further action upon the earlier of (a) the making by the Lenders of the Loans to which such Applicable Commitment relates on the Applicable Funding Date and (b) the last day of the Applicable Availability Period. The Borrower shall have the right at any time or from time to time to terminate in full (but not in part) all of the then outstanding Applicable Commitments with respect to all Tranches (other than Tranche A Term Loans); provided that the Borrower shall give the Lender and the Administrative Agent at least three (3) Business Days' notice of each such termination. Any notice of termination delivered pursuant to this **Section 3.04** may state that such notice is conditional upon the effectiveness of other credit facilities or the receipt of the proceeds from the issuance of other Indebtedness or the occurrence of some other identifiable event or condition, in which case such notice of termination may be revoked by the Borrower (by notice to the Administrative Agent on or prior to the specified date of termination) if such condition is not satisfied. The termination of any Applicable Commitment shall be permanent.

SECTION 4.
PAYMENTS, ETC.

4.01 Payments.

(a) **Payments Generally**. Each payment of principal, interest and other amounts to be made by the Obligors under this Agreement or any other Loan Document shall be made (i) in Dollars in cash, in immediately available funds, without deduction, set off or counterclaim, to the deposit account of each applicable Lender as such Lender (or the Administrative Agent) shall have designated by written notice to the Borrower delivered on or before the Closing Date (which such notice may be updated by such Lender (or the Administrative Agent) by written notice to the Borrower from time to time after the Closing Date), and (ii) not later than 2:00 p.m. on the date on which such payment is due (each such payment made after such time on such due date shall be deemed to have been made on the next succeeding Business Day).

(b) **Application of Payments**. Notwithstanding anything herein to the contrary, following the occurrence and continuance of an Event of Default, Administrative Agent shall apply any funds in its possession, whether from Borrower account balances, payments, proceeds realized as the result of any collection of Controlled Accounts or disposition of any other Collateral, or otherwise, shall be applied as follows:

(A) first, to the payment of that portion of the Obligations constituting unpaid fees, indemnities, expenses or other amounts (including fees and disbursements and other charges of counsel payable under **Section 14.03**) payable to the Administrative Agent in its capacity as such;

(B) second, to the payment of that portion of the Obligations constituting unpaid fees, indemnities, costs, expenses and other amounts (other than principal and interest, but including fees and disbursements and other charges of counsel payable under **Section 14.03**, any Yield Protection Premium and any Exit Fees) payable to the Lenders arising under the Loan Documents, ratably among them in proportion to the respective amounts described in this **clause (B)** payable to them;

(C) third, to the payment of that portion of the Obligations constituting accrued and unpaid interest on the Loans, ratably among the Lenders in proportion to the respective amounts described in this **clause (C)** payable to them;

(D) fourth, to the payment of that portion of the Obligations constituting unpaid principal of the Loans, ratably among the Lenders in proportion to the respective amounts described in this **clause (D)** payable to them;

(E) fifth, in reduction of any other Obligation then due and owing, ratably among the Administrative Agent and the Lenders based upon the respective aggregate amount of all such Obligations owing to them in accordance with the respective amounts thereof then due and payable; and

(F) sixth, the balance, if any, after all Obligations have been paid in full, to the Borrower or such other Person as may be lawfully entitled to or directed by the Borrower to receive the remainder.

(c) **Non-Business Days**. Unless otherwise specified in this Agreement, if the due date of any payment under this Agreement (whether in respect of principal, interest, fees, costs or otherwise) would otherwise fall on a day that is not a Business Day, such date shall be extended to the next succeeding Business Day, and, in the case of any payment accruing interest, interest thereon shall continue to accrue and be payable for the period of such extension; provided that if such next succeeding Business Day would fall after the Maturity Date, payment shall be made on the immediately preceding Business Day.

4.02 Computations. All computations of interest and fees hereunder shall be computed on the basis of a year of three hundred and sixty (360) days and actual days elapsed during the period for which payable.

4.03 Set-Off.

(a) **Set-Off Generally**. Upon the occurrence and during the continuance of any Event of Default, the Administrative Agent, each of the Lenders and each of their Affiliates is hereby authorized at any time and from time to time, to the fullest extent permitted by law, to set off and apply any and all deposits (general or special, time or demand, provisional or final) at any time held and other indebtedness at any time owing by the Administrative Agent, any Lender and any of their Affiliates to or for the credit or the account of any Obligor against any and all of the Obligations, whether or not such Person shall have made any demand and although such obligations may be unmatured; provided, that, (1) if any Lender shall, by exercising any such rights of setoff or counterclaim or otherwise, obtain payment in respect of any principal of or interest on any of the Obligations resulting in such Lender receiving payment of a proportion of the aggregate amount of its Loans and accrued interest thereon or such obligations greater than its Proportionate Share, then the Lender receiving such greater proportion shall (i) notify the Administrative Agent of such fact, and (ii) purchase (for cash at par) participations in the Loans and such other

obligations of the Lenders, or make such other adjustments as shall be equitable, so that the benefit of all such payments shall be shared by the Lenders ratably in accordance with the aggregate amount of principal and accrued interest on their respective Loans and other amounts owing to them; provided that: (a) if any such participations are purchased and all or any portion of the payment giving rise thereto is recovered, such participations shall be rescinded and the purchase price restored to the extent of such recovery, without interest; and (b) the provisions of this paragraph shall not be construed to apply to (y) any payment made by a Borrower pursuant to and in accordance with the express terms of this Agreement or (z) any payment obtained by a Lender as consideration for the assignment of or sale of a participation in any of its Loans to any assignee or participant, other than to a Borrower or any Subsidiary thereof (as to which the provisions of this paragraph shall apply); and (2) in the event that any Defaulting Lender shall exercise any such right of setoff, (x) all amounts so set off shall be paid over immediately to the Administrative Agent for further application in accordance with the provisions of **Section 2.06** and, pending such payment, shall be segregated by such Defaulting Lender from its other funds and deemed held in trust for the benefit of the Administrative Agent and the Lenders and (y) the Defaulting Lender shall provide promptly to the Administrative Agent a statement describing in reasonable detail the Obligations owing to such Defaulting Lender as to which it exercised such right of setoff. Any Person exercising rights of set off hereunder agrees promptly to notify the Borrower after any such set-off and application; provided that the failure to give such notice shall not affect the validity of such set-off and application. The rights of the Administrative Agent, the Lenders and each of their Affiliates under this **Section 4.03** are in addition to other rights and remedies (including other rights of set-off) that such Persons may have.

(b) **Exercise of Rights Not Required**. Nothing contained in **Section 4.03(a)** shall require the Administrative Agent, any Lender or any of their Affiliates to exercise any such right or shall affect the right of such Persons to exercise, and retain the benefits of exercising, any such right with respect to any other indebtedness or obligation of any Obligor.

(c) **Payments Set Aside**. To the extent that any payment by or on behalf of any Obligor is made to the Administrative Agent or any Lender, or the Administrative Agent, any Lender or any Affiliate of the foregoing exercises its right of setoff pursuant to this **Section 4.03**, and such payment or the proceeds of such setoff or any part thereof is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by the Administrative Agent, such Lender or such Affiliate in its discretion) to be repaid to a trustee, receiver or any other party, in connection with any Insolvency Proceeding or otherwise, then (i) to the extent of such recovery, the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such setoff had not occurred, and (ii) each Lender severally agrees to pay to the Administrative Agent upon demand its applicable share (without duplication) of any amount so recovered from or repaid by the Administrative Agent, plus interest thereon from the date of such demand to the date such payment is made at a rate per annum equal to the Federal Funds Effective Rate from time to time in effect.

SECTION 5.
YIELD PROTECTION, TAXES, ETC.

5.01 Additional Costs.

(a) **Change in Law Generally**. If, on or after the date hereof (or, with respect to any Lender, such later date on which such Lender becomes a party to this Agreement), the adoption of any Law, or any change in any Law, or any change in the interpretation or administration thereof by any court or other Governmental Authority charged with the interpretation or administration thereof, or compliance by the Administrative Agent or any of the Lenders (or its lending office) with any request or directive (whether or not having the force of law) of any such Governmental Authority, shall impose, modify or deem applicable any reserve (including any such requirement imposed by the Board of Governors of the Federal Reserve System), special deposit, contribution, insurance assessment or similar requirement, in each case that becomes effective after the date hereof (or, with respect to any Lender, such later date on which such Lender becomes a party to this Agreement), against assets of, deposits with or for the account of, or credit extended by, a Lender (or its lending office) or shall impose on a Lender (or its lending office) any other condition affecting the Loans or the Commitment, and the result of any of the foregoing is to increase the cost to such Lender of making or maintaining the Loans, or to reduce the amount of any sum received or receivable by such Lender under this Agreement or any other Loan Document, or subject any Lender to any Taxes (other than (i) Indemnified Taxes, (ii) Taxes described in **clauses (b)** through **(d)** of the definition of Excluded Taxes and (iii) Connection Income Taxes) on its loans, loan principal, letters of credit, commitments, or other obligations, or its deposits, reserves, other liabilities or capital attributable thereto, then the Borrower shall pay to such Lender on demand such additional amount or amounts as will compensate such Lender for such increased cost or reduction.

(b) **Change in Capital Requirements**. If a Lender shall have determined that, on or after the date hereof (or, with respect to any Lender, such later date on which such Lender becomes a party to this Agreement), the adoption of any Law regarding capital adequacy, or any change therein, or any change in the interpretation or administration thereof by any Governmental Authority charged with the interpretation or administration thereof, or any request or directive regarding capital adequacy (whether or not having the force of law) of any such Governmental Authority, in each case that becomes effective after the date hereof (or, with respect to any Lender, such later date on which such Lender becomes a party to this Agreement), has or would have the effect of reducing the rate of return on capital of a Lender (or its parent) as a consequence of a Lender's obligations hereunder or the Loans to a level below that which a Lender (or its parent) could have achieved but for such adoption, change, request or directive by an amount reasonably deemed by it to be material, then the Borrower shall pay to such Lender on demand such additional amount or amounts as will compensate such Lender (or its parent) for such reduction.

(c) **Notification by Lender**. Each Lender promptly shall notify the Borrower of any event of which it has knowledge, occurring after the date hereof (or, with respect to any Lender, such later date on which such Lender becomes a party to this Agreement), which shall entitle such Lender to compensation pursuant to this **Section 5.01**. Before giving any such notice pursuant to this **Section 5.01(c)** such Lender shall designate a different lending office if such designation (x) will, in the reasonable judgment of such Lender, avoid the need for, or reduce the amount of, such compensation and (y) will not, in the reasonable judgment of such Lender, be materially disadvantageous to such Lender. A certificate of such Lender claiming compensation under this **Section 5.01**, setting forth the additional amount or amounts to be paid to it hereunder, shall be conclusive and binding on the Borrower in the absence of manifest error.

(d) Notwithstanding anything herein to the contrary, (x) the Dodd-Frank Wall Street Reform and Consumer Protection Act and all requests, rules, guidelines or directives thereunder or issued in connection therewith and (y) all requests, rules, guidelines or directives promulgated by the Bank for International Settlements, the Basel Committee on Banking Supervision (or any successor or similar authority) or the United States or foreign regulatory authorities, in each case pursuant to Basel III, shall in each case be deemed to constitute a change in Law for all purposes of this **Section 5.01**, regardless of the date enacted, adopted or issued.

5.02 Illegality. Notwithstanding any other provision of this Agreement, in the event that on or after the date hereof (or, with respect to any Lender, such later date on which such Lender becomes a party to this Agreement) the adoption of or any change in any Law or in the interpretation or application thereof by any competent Governmental Authority shall make it unlawful for a Lender or its lending office to make or maintain the Loans (and, in the opinion of such Lender, the designation of a different lending office would either not avoid such unlawfulness or would be disadvantageous to such Lender), then such Lender shall promptly notify the Borrower thereof, following which if such Law shall so mandate, the Loans shall be prepaid by the Borrower on or before such date as shall be mandated by such Law in an amount equal to the Prepayment Price (notwithstanding anything herein to the contrary, without any Yield Protection Premium or Exit Fee) applicable on such prepayment date in accordance with **Section 3.03(a)**.

5.03 Taxes.

(a) **Payments Free of Taxes**. Any and all payments by or on account of any Obligation shall be made without deduction or withholding for any Taxes, except as required by any Applicable Law. If any Applicable Law (as determined in the good faith discretion of an applicable Withholding Agent) requires the deduction or withholding of any Tax from any such payment by a Withholding Agent, then the applicable Withholding Agent shall be entitled to make such deduction or withholding and shall timely pay the full amount deducted or withheld to the relevant Governmental Authority in accordance with Applicable Laws and, if such Tax is an Indemnified Tax, then the sum payable by such Obligor shall be increased as necessary so that after such deduction or withholding has been made (including such deductions and withholdings applicable to additional sums payable under this **Section 5**) the applicable Recipient receives an amount equal to the sum it would have received had no such deduction or withholding been made.

(b) **Payment of Other Taxes by the Borrower**. The Borrower shall timely pay to the relevant Governmental Authority in accordance with Applicable Laws, or at the option of the Administrative Agent, timely reimburse it for the payment of, any Other Taxes.

(c) **Evidence of Payments**. As soon as practicable after any payment of Taxes by the Borrower to a Governmental Authority pursuant to this **Section 5**, the Borrower shall deliver to the Administrative Agent the original or a certified copy of a receipt issued by such Governmental Authority evidencing such payment, a copy of the return reporting such payment or other evidence of such payment reasonably satisfactory to the Administrative Agent.

(d) **Indemnification by the Borrower**. The Borrower shall indemnify each Recipient, within ten (10) days after demand therefor, for the full amount of any Indemnified Taxes (including Indemnified Taxes imposed or asserted on or attributable to amounts payable under this **Section 5**) payable or paid by such Recipient or required to be withheld or deducted from a payment to such Recipient and any reasonable out-of-pocket expenses arising therefrom or with respect thereto, whether or not such Indemnified Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to the Borrower by a Lender (with a copy to the Administrative Agent), or by the Administrative Agent on its own behalf shall be conclusive absent manifest error.

(e) **Indemnification by the Lenders**. Each Lender shall severally indemnify the Administrative Agent, within ten (10) days after demand therefor, for (i) any Indemnified Taxes attributable to such Lender (but only to the extent that the Borrower has not already indemnified the Administrative Agent for such Indemnified Taxes and without limiting the obligation of the Borrower to do so), (ii) any Taxes attributable to such Lender's failure to comply with the provisions of **Section 14.05(e)** relating to the maintenance of a Participant Register and (iii) any Excluded Taxes attributable to such Lender, in each case, that are payable or paid by the Administrative Agent in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto, whether or not such Taxes were correctly or legally imposed or asserted by the relevant Governmental Authority. A certificate as to the amount of such payment or liability delivered to any Lender by the Administrative Agent shall be conclusive absent manifest error. Each Lender hereby authorizes the Administrative Agent to set off and apply any and all amounts at any time owing to such Lender under any Loan Document or otherwise payable by the Administrative Agent to the Lender from any other source against any amount due to the Administrative Agent under this **Section 5.03(e)**.

(f) **Status of Lenders**.

(i) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to the Borrower and the Administrative Agent, at the time or times reasonably requested by the Borrower or the Administrative Agent, such properly completed and executed documentation reasonably requested by the Borrower or the Administrative Agent as will permit such payments to be made without withholding or at a reduced rate of withholding. In addition, any Lender, if reasonably requested by the Borrower or the Administrative Agent, shall deliver such other documentation prescribed by Law or reasonably requested by the Borrower or the Administrative Agent as will enable the Borrower or the Administrative Agent to determine whether or not such Lender is subject to backup withholding or information reporting requirements. Notwithstanding anything to the contrary in the preceding two (2) sentences, the completion, execution and submission of such documentation (other than such documentation set forth in **Section 5.03(f)(ii)(A)**, **(ii)(B)**, and **(ii)(D)**) shall not be required if in such Lender's reasonable judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

(ii) Without limiting the generality of the foregoing, in the event that the Borrower is a U.S. Person:

(A) any Lender that is a U.S. Person shall deliver to the Borrower and the Administrative Agent on or prior to the date on which such Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower or the Administrative Agent), executed copies of IRS Form W-9 (or successor form) certifying that such Lender is exempt from U.S. federal backup withholding tax;

(B) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Borrower and the Administrative Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower or the Administrative Agent), whichever of the following is applicable:

(1) in the case of a Foreign Lender claiming the benefits of an income tax treaty to which the United States is a party (x) with respect to payments of interest under any Loan Document, executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E as applicable (or successor forms) establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "interest" article of such tax treaty and (y) with respect to any other applicable payments under any Loan Document, IRS Form W-8BEN or IRS Form W-8BEN-E as applicable (or successor forms) establishing an exemption from, or reduction of, U.S. federal withholding Tax pursuant to the "business profits" or "other income" article of such tax treaty;

(2) executed copies of IRS Form W-8ECI (or successor form);

(3) in the case of a Foreign Lender claiming the benefits of the exemption for portfolio interest under Section 881(c) of the Code, (x) a certificate substantially in the form of **Exhibit D-1** to the effect that such Foreign Lender is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, a "10 percent shareholder" of the Borrower within the meaning of Section 871(h)(3)(B) of the Code, or a "controlled foreign corporation" related to the Borrower as described in Section 881(c)(3)(C) of the Code (a "***U.S. Tax Compliance Certificate***") and (y) executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E as applicable (or successor forms); or

(4) to the extent a Foreign Lender is not the beneficial owner, executed copies of IRS Form W-8IMY (or successor form), accompanied by IRS Form W-8ECI (or successor form), IRS Form W-8BEN or IRS Form W-8BEN-E (or successor form), a U.S. Tax Compliance Certificate, substantially in the form of **Exhibit D-2** or **D-3**, IRS Form W-9 (or successor form), and/or other certification documents from each beneficial owner, as applicable; provided that if the Foreign Lender is a partnership and one or more direct or indirect partners of such Foreign Lender are claiming the portfolio interest exemption, such Foreign Lender may provide a U.S. Tax Compliance Certificate substantially in the form of **Exhibit D-4** on behalf of each such direct and indirect partner.

(C) any Foreign Lender shall, to the extent it is legally entitled to do so, deliver to the Borrower and the Administrative Agent (in such number of copies as shall be requested by the recipient) on or prior to the date on which such Foreign Lender becomes a Lender under this Agreement (and from time to time thereafter upon the reasonable request of the Borrower or the Administrative Agent), executed copies of any other form prescribed by Applicable Laws as a basis for claiming exemption from or a reduction in U.S. federal withholding Tax, duly completed, together with such supplementary documentation as may be prescribed by Applicable Laws to permit the Borrower or the Administrative Agent to determine the withholding or deduction required to be made; and

(D) if a payment made to a Lender under any Loan Document would be subject to U.S. federal withholding Tax imposed by FATCA if such Lender were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Code, as applicable), such Lender shall deliver to the Borrower and the Administrative Agent at the time or times prescribed by law and at such time or times reasonably requested by the Borrower or the Administrative Agent such documentation prescribed by Applicable Law (including as prescribed by Section 1471(b)(3)(C)(i) of the Code) and such additional documentation reasonably requested by the Borrower or the Administrative Agent as may be necessary for the Borrower and the Administrative Agent to comply with their obligations under FATCA and to determine that such Lender has complied with such Lender's obligations under FATCA or to determine the amount, if any, to deduct and withhold from such payment. Solely for purposes of this **clause (D)**, "***FATCA***" shall include any amendments made to FATCA after the date of this Agreement.

Each Lender agrees that if any form or certification it previously delivered expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify the Borrower and the Administrative Agent in writing of its legal inability to do so.

(g) **Treatment of Certain Tax Refunds**. If any party to this Agreement determines, in its sole discretion exercised in good faith, that it has received a refund (for this purpose, including credits in lieu of a refund) of any Taxes as to which it has been indemnified pursuant to this **Section 5** (including by the payment of additional amounts pursuant to this **Section 5**), it shall pay to the indemnifying party an amount equal to such refund (but only to the extent of indemnity payments made under this **Section 5** with respect to the Taxes giving rise to such refund), net of all out-of-pocket expenses (including Taxes) of such indemnified party and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund). Such indemnifying party, upon the request of such indemnified party, shall repay to such indemnified party the amount paid over pursuant to this **Section 5.03(g)** (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) in the event that such indemnified party is required to repay such refund to such Governmental Authority. Notwithstanding anything to the contrary in this **Section 5.03(g)**, in no event shall the indemnified party be required to pay any amount to an indemnifying party pursuant to this **Section 5.03(g)** the payment of which would place the indemnified party in a less favorable net after-Tax position than the indemnified party would have been in if the Tax subject to indemnification and giving rise to such refund had not been deducted, withheld or otherwise imposed and the indemnification payments or additional amounts with respect to such Tax had never been paid. This **Section 5.03(g)** shall not be construed to require any indemnified party to make available its Tax returns (or any other information relating to its Taxes that it deems confidential) to the indemnifying party or any other Person.

(h) **Warrant**. Each party hereto hereby acknowledges and agrees that each Loan is part of an investment unit within the meaning of Section 1273(c)(2) of the Code, which includes any Warrant delivered on the date of such Loan, and the "issue price" of such investment unit is allocated between the Tranche A Term Loans and the Warrant based on their relative fair market values. For federal income tax purposes, pursuant to Treasury Regulations § 1.1273-2(h), the Borrower, the Administrative Agent and the Lenders acknowledge that the "issue price" of each Tranche A Term Loan is the stated principal amount of such Loan, minus the Upfront Fee as defined in each Fee Letter, minus the fair market value of the Warrant (which fair market value the parties agree shall be determined in accordance with Section 16 of the Warrant). Each of the Borrower, the Administrative Agent and the Lenders agree (i) to use the foregoing issue price and valuation for U.S. federal income tax purposes with respect to the transactions contemplated hereby, and (ii) to prepare and file all Tax returns in a manner consistent with such allocation (in each case, unless otherwise required by applicable Law) and shall not to take any position that is inconsistent with the provision of this **Section 5.03(h)** on any Tax return or in any audit (unless otherwise required by a final determination by the IRS or a court of competent jurisdiction).

5.04 Mitigation Obligations; Replacement of Lenders.

(a) If the Borrower is required to pay any Indemnified Taxes or additional amounts to any Lender or to any Governmental Authority for the account of any Lender pursuant to **Section 5.01** or **Section 5.03**, then such Lender shall (at the request of the Borrower) use commercially reasonable efforts to designate a different lending office for funding or booking its Loans hereunder or to assign and delegate its rights and obligations hereunder to another of its offices, branches or Affiliates if, in the sole reasonable judgment of such Lender, such designation or assignment and delegation would (i) eliminate or reduce amounts payable pursuant to **Section 5.01** or **Section 5.03**, as the case may be, in the future, (ii) not subject such Lender to any unreimbursed cost or expense and (iii) not otherwise be disadvantageous to such Lender. The Borrower hereby agrees to pay all reasonable costs and expenses incurred by any Lender in connection with any such designation or assignment and delegation.

(b) If any Lender requests compensation pursuant to **Section 5.01**, or if the Borrower is required to pay any Indemnified Taxes or additional amounts to any Lender or to any Governmental Authority for the account of any Lender pursuant to **Section 5.01** or **Section 5.03**, and such Lender has declined or is unable to designate a different lending office in accordance with **Section 5.04(a)**, or if any Lender is a Defaulting Lender, then the Borrower may, at such Lender's sole expense and effort, upon notice to such Lender and the Administrative Agent, require such Lender to assign and delegate, without recourse (in accordance with and subject to the restrictions contained in, and consents required by, **Section 14.05(b)**) (other than such Lender's consent), all of its interests, rights (other than its existing rights to payments pursuant to **Section 5.01** or **Section 5.03**) and obligations under this Agreement and the related Loan Documents to any assignee permitted pursuant to **Section 14.05(b)** that shall assume such obligations (which assignee may be another Lender, if a Lender accepts such assignment); provided that: (i) the Borrower shall have paid to the Administrative Agent the assignment fee (if any) specified in **Section 14.05(b)**; (ii) such Lender shall have received payment of an amount

equal to (A) the outstanding principal of its Loans, (B) accrued interest thereon, (C) accrued fees and (D) all other amounts payable to it hereunder and under the other Loan Documents from the assignee (to the extent of such outstanding principal and accrued interest and fees) or the Borrower (in the case of all other amounts); (iii) in the case of any such assignment resulting from a claim for compensation under **Section 5.01** or payments required to be made pursuant to **Section 5.03**, such assignment shall result in a reduction in such compensation or payments thereafter; and (iv) such assignment does not conflict with applicable Law. A Lender shall not be required to make any such assignment or delegation if, prior thereto, as a result of a waiver by such Lender or otherwise, the circumstances entitling the Borrower to require such assignment and delegation cease to apply.

5.05 Survival. Each party's obligations under this **Section 5** shall survive the resignation or replacement of the Administrative Agent or any assignment of rights by, or the replacement of, a Lender, the termination of the Commitments and the repayment, satisfaction or discharge of all Obligations under any Loan Document.

SECTION 6.
CONDITIONS

6.01 Conditions to the Closing Date. The effectiveness of this Agreement shall be subject to the prior or concurrent satisfaction or waiver of each of the conditions precedent set forth below in this **Section 6.01**.

(a) **Loan Documents**. The Administrative Agent and each Lender shall have received each Loan Document required to be executed by the appropriate Obligor on the Closing Date and delivered by each applicable Obligor in such number as reasonably requested by the Administrative Agent and the Lenders (which may be delivered by electronic means for the purposes of satisfying this **clause (a)** on the Closing Date) and such Loan Documents shall be in form and substance satisfactory to the Administrative Agent and the Lenders and their respective counsels.

(b) **Secretary's Certificate, Etc.** The Administrative Agent and each Lender shall have received from each Obligor (x) a copy of a good standing certificate, dated a date reasonably close to the Closing Date, for each such Person and (y) a certificate, dated as of the Closing Date, duly executed and delivered by such Person's Responsible Officer, as to:

(i) resolutions of each such Person's Board then in full force and effect authorizing the execution, delivery and performance of each Loan Document and the Warrants to be executed by such Person (as applicable) and the Transactions;

(ii) the incumbency and signatures of Responsible Officers authorized to execute and deliver each Loan Document to be executed by such Person; and

(iii) the full force and validity of each Organic Document of such Person and copies thereof;

which certificates shall be in form and substance reasonably satisfactory to the Administrative Agent and the Lenders and upon which the Administrative Agent and the Lenders may conclusively rely until they shall have received a further certificate of the Responsible Officer of any such Person updating the prior certificate of such Person.

(c) **Perfection Certificate**. The Administrative Agent and each Lender shall have received a fully completed Perfection Certificate in form and substance reasonably satisfactory to the Administrative Agent and the Lenders, dated as of the Closing Date, duly executed and delivered by a Responsible Officer of the Borrower. All documents and agreements required to be appended to the Perfection Certificate, shall be in form and substance reasonably satisfactory to the Administrative Agent and the Lenders, shall have been executed and delivered by the requisite parties and shall be in full force and effect.

(d) **Security Documents**. The Administrative Agent and each Lender shall have received executed counterparts of a Security Agreement, in form and substance reasonably acceptable to the Administrative Agent and the Lenders, dated as of the Closing Date, duly executed and delivered by each Obligor, together with all documents (including share certificates, transfers and stock transfer forms, notices or any other instruments) required to be delivered or filed under the Security Documents and evidence satisfactory to it that arrangements have been made with respect to all registrations, notices or actions required under the Security Documents to be effected, given or made in order to establish a valid and perfected first priority security interest in the Collateral in accordance with the terms of the Security Documents, including:

(i) subject to **Section 8.18(a)**, delivery of all certificates (in the case of Equity Interests that are certificated securities (as defined in the UCC)) evidencing the issued and outstanding capital securities owned by each Obligor that are required to be pledged or otherwise secured and so delivered under the Security Documents, which certificates in each case shall be accompanied by undated instruments of transfer duly executed in blank, or, in the case of Equity Interests that are uncertificated securities (as defined in the UCC), confirmation and evidence reasonably satisfactory to the Administrative Agent that the security interest required to be pledged therein under the Security Agreement has been transferred to and perfected by the Administrative Agent, on behalf of the Lenders, in accordance with Articles 8 and 9 of the NY UCC and all laws otherwise applicable to the perfection of the pledge of such Equity Interests;

(ii) financing statements naming each Obligor as a debtor and the Administrative Agent as the secured party, or other similar instruments or documents, in each case suitable for filing under the UCC (or equivalent law) of all jurisdictions as may be necessary or, in the opinion of the Administrative Agent and the Lenders, desirable to perfect the Liens of the Secured Parties pursuant to the Security Agreement;

(iii) UCC-3 termination statements, if any, necessary to release all Liens and other rights of any Person in any collateral described in the Security Agreement previously granted by any Person;

(iv) all applicable Short-Form IP Security Agreements required to be provided under the Security Agreement, each dated as of the Closing Date, duly executed and delivered by each applicable Obligor; and

(v) to the extent required to be delivered pursuant to the terms of the Security Documents, all instruments, documents and chattel paper in the possession of any of the Obligors, together with allonges or assignments as may be necessary or appropriate to perfect the Administrative Agent's security interest in the Collateral.

(e) **Controlled Accounts**. The Administrative Agent and the Lenders shall have received evidence that (i) all deposit accounts, lockboxes, disbursement accounts, investment accounts or other similar accounts (other than Excluded Accounts) of each Obligor located within the U.S. are Controlled Accounts to the extent required to comply with the requirement of **Section 8.16** and (ii) such Controlled Accounts are subject to one or more account control agreements, in favor of, and in form and substance reasonably satisfactory to, the Administrative Agent and the Lenders that (A) ensures, to the extent necessary under applicable Law, the perfection of a first priority security interest in favor of the Administrative Agent on such Controlled Account, subject only to Permitted Liens, (B) provides that, upon written notice from the Administrative Agent, such bank or financial institution shall comply with instructions originated by the Administrative Agent directing disposition of the funds in such Controlled Account without further consent by the applicable Obligor, and (C) may not be terminated by the applicable Obligor without prior written consent of the Administrative Agent.

(f) **Reserved**.

(g) **Financial Information, Etc.** The Administrative Agent and each Lender shall have received:

(i) audited consolidated financial statements of the Borrower and its Subsidiaries for the fiscal year ended December 31, 2022; and

(ii) unaudited consolidated balance sheets of the Borrower and its Subsidiaries for the fiscal quarter ended June 30, 2023, in each case, together with the related consolidated statement of operations, shareholder's equity and cash flows for such fiscal quarter.

(h) **Solvency**. The Administrative Agent and each Lender shall have received a solvency certificate, substantially in the form of **Exhibit I**, duly executed and delivered by the chief financial officer, or other Responsible Officer who is a financial officer, of the Borrower, dated as of the Closing Date, in form and substance reasonably satisfactory to the Administrative Agent and the Lenders.

(i) **Lien Searches**. The Administrative Agent and the Lenders shall be satisfied with Lien searches regarding the Borrower and the Subsidiary Guarantors made as of a date reasonably close to the Closing Date.

(j) **Evidence of Insurance**. Receipt by the Administrative Agent and the Lenders of copies of insurance policies or certificates of insurance of the Obligors evidencing liability and casualty insurance meeting the requirements set forth in the Loan Documents, including, but not limited to, naming the Administrative Agent as additional insured (in the case of liability insurance) or lender's loss payee (in the case of property insurance), as applicable, on behalf of the Secured Parties and providing that no cancellation of the policies will be made without at least ten (10) days prior written notice to the Administrative Agent.

(k) **Opinion of Counsel**. The Administrative Agent and each Lender shall have received duly executed legal opinion of counsel to the Obligors and such other legal opinions as the Administrative Agent and the Lenders may reasonably request, addressed to the Administrative Agent and each Lender, dated as of the Closing Date, in form and substance reasonably acceptable to the Administrative Agent.

(l) **Fee Letter**. The Administrative Agent and the applicable Lenders shall have received an executed counterpart of the Fee Letter, duly executed and delivered by the Borrower.

(m) **Material Adverse Change**. Since December 31, 2022, no event, circumstance or change shall have occurred that has caused or could reasonably be expected to cause, either individually or in the aggregate, a Material Adverse Change.

(n) **Know Your Customer**. The Administrative Agent and each Lender shall have received, as applicable, all documentation and other information required by bank regulatory authorities under applicable "know your customer" and the applicable Anti-Terrorism Laws, in each case to the extent requested by the Administrative Agent and the Lenders in writing at least five (5) Business Days prior to the Closing Date.

(o) **No Default**. No event shall have occurred or be continuing that would constitute a Default or Event of Default.

(p) **Representations and Warranties**. The representations and warranties contained in this Agreement and in the other Loan Documents delivered pursuant to **Section 6.01*(a)*** shall be true and correct in all material respects (unless such representations are already qualified by reference to materiality, Material Adverse Effect or similar language, in which case such representations and warranties shall be true and correct in all respects) on and as of the Closing Date, except to the extent such representations and warranties specifically relate to an earlier date, in which case such representations and warranties shall have been true and correct in all material respects on and as of such earlier date.

(q) **Beneficial Ownership Certificate**. At least five (5) Business Days prior to the Closing Date, the Borrower shall have provided to such Lender and the Administrative Agent all documentation and other information so requested, including a duly executed IRS Form W-9 of the Borrower (or such other applicable tax form), in connection with applicable "know your customer" and anti-money laundering rules and regulations, including the Patriot Act, and if the Borrower qualifies as a "legal entity customer" under the Beneficial Ownership Regulation, a Beneficial Ownership Certification.

(r) **Warrants**. The Administrative Agent and the applicable Lenders shall have received executed counterparts of the Warrants, each duly executed and delivered by the Borrower.

(s) **Subordination Agreement**. The Administrative Agent and each Lender shall have received a Subordination Agreement with respect to the Existing Convertible Notes, duly executed by each noteholder.

(t) **Tranche A Funding**. The Tranche A Funding Condition shall have occurred, and the conditions under **Section 6.02** shall have been satisfied with respect to the funding of the Tranche A Term Loans on the Closing Date.

(u) **Other Documents**. The Administrative Agent and each Lender shall have received such other documents as Administrative Agent and the Lenders may reasonably request.

6.02 Conditions to the Borrowing of All Loans. The obligation of each Lender to make all Loans shall be subject to the delivery of a Borrowing Notice as required pursuant to **Section 2.02**, and the prior or concurrent satisfaction or waiver of each of the conditions precedent set forth below in this **Section 6.02**:

(a) **Applicable Funding Date Certificate**. The Administrative Agent shall have received a Funding Date Certificate substantially in the form of **Exhibit J** dated as of the Applicable Funding Date, duly executed and delivered by a Responsible Officer of the Borrower.

(b) **Delivery of Notes**. The Administrative Agent shall have received a Note to the extent requested by any Lender at least three (3) Business Days prior to the Applicable Funding Date and pursuant to **Section 2.04** for the Loans made on such Applicable Funding Date duly executed and delivered by a Responsible Officer of the Borrower.

(c) **Fees, Expenses, Etc.** Each of the Administrative Agent and each Lender shall have received for its own account all fees, costs and expenses due and payable to it on or prior to the Applicable Funding Date pursuant to the Fee Letter, **Section 14.03**, including all reasonable closing costs and fees and all unpaid reasonable expenses of the Administrative Agent and the Lenders incurred in connection with the Transactions (including the Administrative Agent's and the Lenders' legal fees and expenses) in each case, to the extent invoiced (or as to which a good faith estimate has been provided to the Borrower) at least two (2) Business Days prior to the Applicable Funding Date.

(d) **No Default or Event of Default**. No event shall have occurred or be continuing or would result from the making of the Loans on the Applicable Funding Date that would constitute a Default or Event of Default.

(e) **Representations and Warranties; Updated Schedules**. The representations and warranties contained in this Agreement and in the other Loan Documents shall be true and correct in all material respects (unless such representations are already qualified by reference to materiality, Material Adverse Effect or similar language, in which case such representations and warranties shall be true and correct in all respects) on and as of the Applicable Funding Date, except (i) to the extent such representations and warranties specifically relate to an earlier date, in which case such representations and warranties shall have been true and correct in all material respects on and as of such earlier date and (ii) the representations and warranties made under **Section 7.04(a)** shall be deemed to refer to the most recent financial statements of the Borrower furnished to the Administrative Agent and the Lenders pursuant to **Section 8.01**. The Borrower shall have delivered to the Administrative Agent and each Lender updated copies of **Schedules 7.06(c)**, **7.12**, **7.15** and **7.16**, to the extent required to satisfy the foregoing requirements set forth in this **Section 6.02(e)**.

(f) **Applicable Funding Condition**. The Applicable Funding Condition shall have been satisfied as set forth on the Loans Schedule.

(g) **Applicable Availability Period**. The Loans shall be borrowed on or prior to the last day of the Applicable Availability Period.

SECTION 7.
REPRESENTATIONS AND WARRANTIES

The Borrower and each other Obligor hereby jointly and severally represents and warrants to the Administrative Agent and each Lender on the Closing Date and each Bringdown Date, as set forth below:

7.01 Power and Authority. Each Obligor and each of its Subsidiaries (i) is duly organized and validly existing under the laws of its jurisdiction of organization, (ii) has all requisite corporate or other power, and has all Governmental Approvals necessary to own its assets and carry on its business as now being or as proposed to be conducted, except to the extent that failure to have the same could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect, (iii) is qualified to do business and is in good standing in all jurisdictions in which the nature of the business conducted by it makes such qualification necessary except where failure so to qualify could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect, and (iv) has full power, authority and legal right to enter into and perform its obligations under each of the Loan Documents to which it is a party and, in the case of the Borrower, to borrow the Loans hereunder.

7.02 Authorization; Enforceability. Each Transaction to which an Obligor is a party (or to which it or any of its assets or properties is subject) are within such Obligor's corporate or other organizational powers and have been duly authorized by all necessary corporate or other organizational action including, if required, approval by all necessary holders of its Equity Interests. This Agreement has been duly executed and delivered by each Obligor and constitutes, and each of the other Loan Documents to which it is a party when executed and delivered by such Obligor shall constitute, a legal, valid and binding obligation of such Obligor, enforceable against such Obligor in accordance with its terms, except as such enforceability may be limited by (i) bankruptcy, insolvency, reorganization, moratorium or similar laws of general applicability affecting the enforcement of creditors' rights and (ii) the application of general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

7.03 Governmental and Other Approvals; No Conflicts. None of the execution, delivery and performance by each Obligor of the Loan Documents to which it is a party or the consummation by each Obligor of the Transactions (i) requires any Governmental Approval of, registration or filing with, or any other action by, any Governmental Authority or any other Person, except for (x) such as have been obtained or made and are in full force and effect, (y) filings and recordings in respect of perfecting or recording the Liens created pursuant to the Security Documents and (z) filings required under applicable securities laws, (ii) will violate (1) any Law, (2) any Organic Document of any Obligor or any of its Subsidiaries or (3) any order of any Governmental Authority, that in the case of **clause (ii)(1)** or **clause (ii)(3)**, individually or in the aggregate, could reasonably be expected to result in a Material Adverse Effect, (iii) will violate or result in a default under any Material Agreement binding upon any Obligor or any of its Subsidiaries or (iv) will result in the creation or imposition of any Lien (other than Permitted Liens) on any asset of any Obligor or any of its Subsidiaries.

7.04 Financial Statements; Material Adverse Change.

(a) **Financial Statements**. The Borrower has heretofore furnished to the Administrative Agent (who shall forward to the Lenders) consolidated financial statements required to be delivered pursuant to this Agreement. Such financial statements present fairly, in all material respects, the consolidated financial position and results of operations and cash flows of the Borrower and its Subsidiaries as of such dates and for such periods in accordance with GAAP, subject to year-end audit adjustments and the absence of footnotes in the case of the statements of the type described in **Section 8.01(a)**.

(b) **No Material Adverse Change**. Since December 31, 2022, no event, circumstance or change has occurred that has caused or could reasonably be expected to cause, individually or in the aggregate, a Material Adverse Change.

7.05 Properties.

(a) **Property Generally**. Each Obligor and each of its Subsidiaries has good and marketable fee simple title to, or valid leasehold interests in, or license to, all its real and personal property material to its business, including all properties and assets, whether tangible or intangible, relating to its Products or Product Commercialization and Development Activities, subject only to Permitted Liens.

(b) **Intellectual Property; IT Assets; Privacy**.

(i) Except as set forth in **Schedule 7.05(b)(i)**,

(A) the Obligors are the sole and exclusive legal and beneficial owners of all right, title and interest in and to all Material Intellectual Property and all other Intellectual Property that is, in each case, owned or purported to be owned by the Borrower or any of its Subsidiaries, free and clear of:

(1) any Claims that could reasonably be expected to (x) as of the Closing Date, result in material liability to any of the Obligors or (y) as of any Bringdown Date, result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product, or

(2) any Liens other than Permitted Liens; and

(B) the Obligors own or have sufficient and valid rights to use and otherwise exploit all Material Intellectual Property used in the conduct of their respective businesses as currently conducted.

(ii) Without limiting **Section 7.05(b)(i)**, and except as set forth in **Schedule 7.05(b)(ii)**:

(A) other than (1) customary restrictions in in-bound licenses of Material Intellectual Property and non-disclosure Contracts, or (2) as would have been or is permitted by **Section 9.09**, there are no judgments, licenses, covenants not to sue, grants, Liens (other than Permitted Liens), or other Claims or Contracts relating to any Material Intellectual Property, which materially restrict any Obligor with respect to its use, enforcement, or other exploitation of any Material Intellectual Property or in connection with Product Commercialization and Development Activities with respect to any Material Product;

(B) to the knowledge of the Obligors the operation and conduct of the business of the Borrower or any of its Subsidiaries, including the exploitation of any Intellectual Property in the conduct of the business of the Borrower or any of its Subsidiaries and any Product Commercialization and Development Activities, does not infringe, misappropriate or otherwise violate any rights arising under any Intellectual Property of any other Person (1) as of the Closing Date, in any material respect and (2) as of any Bringdown Date, that could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product;

(C) (1) there are no pending, and in the past three (3) years there have been no, actual Claims or Claims threatened in writing, against Borrower or any of its Subsidiaries asserted by any other Person relating to any of such Person's Intellectual Property, including any Claims of adverse ownership, invalidity, infringement, misappropriation or other violation of any rights arising under such Person's Intellectual Property, in each case, (x) as of the Closing Date, which are material in any respect or (y) as of any Bringdown Date, which could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product; and (2) neither Borrower nor any of its Subsidiaries has received any written notice from, or Claim by, any Person that the operation and conduct of the business of the Borrower or any of its Subsidiaries (including their exploitation of Material Intellectual Property), or any Product Commercialization and Development Activities with respect to any Material Product, infringes, misappropriates or otherwise violates any rights arising under the Intellectual Property of any other Person (x) as of the Closing Date, in any material respect and (y) as of any Bringdown Date, which could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product;

(D) to the knowledge of the Obligors no Material Intellectual Property owned or purported to be owned by the Borrower or any of its Subsidiaries is being, or has been in the past three (3) years, infringed, misappropriated or otherwise violated by any other Person (1) as of the Closing Date, in any material respect and (2) as of any Bringdown Date, which could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product; and (x) as of the Closing Date and (y) as of any Bringdown Date, except, in the case of this **clause (y)**, as could not reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product, neither Borrower nor any of its Subsidiaries has put any other Person on notice of such actual or potential infringement, misappropriation or other violation of any such Material Intellectual Property or initiated the enforcement of any Claim with respect to any such Material Intellectual Property;

(E) (1) as of the Closing Date and (2) as of any Bringdown Date, except, in the case of this **clause (2)**, where the failure to do so could not reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product, all current and former employees and contractors that have developed Material Intellectual Property for or on behalf of Borrower or any of its Subsidiaries have executed written and valid confidentiality and invention assignment Contracts in favor of the Borrower or such Subsidiary, as applicable, that irrevocably and presently assign to Borrower or such Subsidiary, as applicable, or its designee all rights of such employees and contractors in or to any such Material Intellectual Property;

(F) Borrower and each of its Subsidiaries has taken all reasonable precautions to protect the secrecy, confidentiality and value of the Material Intellectual Property consisting of trade secrets and confidential information (1) as of the Closing Date and (2) as of any Bringdown Date, except in the case of this **clause (2)**, where the failure to do so could not reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product; and

(G) Except as would not, individually or in the aggregate, be reasonably expected to be material to the Borrower or any of its Subsidiaries or to the value of any of their material software, neither the Borrower nor any of its Subsidiaries has embedded, used, linked to, distributed or made available any software, in each case in a manner that requires (1) any material software owned or purported to be owned by the Borrower or any of its Subsidiaries be disclosed or distributed in source code form; (2) any restriction on the consideration to be charged for the distribution of such material software; (3) the grant to any third Person of the right to make derivative works or other modifications to such material software; or (4) the licensing under terms that allow such material software or portions thereof or interfaces therefor to be reversed engineered, reverse assembled or disassembled (other than by operation of law).

(iii) With respect to Material Intellectual Property owned or purported to be owned by, or exclusively licensed to, the Borrower or any of its Subsidiaries consisting of Patents, except as set forth in **Schedule 7.05(b)(iii)**, and without limiting the representations and warranties in **Section 7.05(b)(i)** and **Section 7.05(b)(ii)**:

(A) to the knowledge of the Obligors, each of the issued claims in such Patents is valid and enforceable and (1) as of the Closing Date and (2) as of any Bringdown Date, except, in the case of this **clause (2)**, as could not reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product, and neither the Borrower nor any of its Subsidiaries has received any written notice asserting that any such Patent or any issued claims therein is invalid or unenforceable;

(B) to the knowledge of the Borrower, subsequent to the issuance of such Patents, neither the Borrower nor any of its Subsidiaries or, to the knowledge of the Obligors, any of its or their predecessors-in-interest, has filed any disclaimer or made or permitted any other voluntary reduction in the scope of the Inventions claimed in such Patents, in each case, (1) as of the Closing Date and (2) as of any Bringdown Date that could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product;

(C) to the knowledge of the Obligors, (1) no allowable or allowed subject matter of such Patents has been the subject of any interference, re-examination, opposition, or any other post-grant proceedings, and (2) there is no basis for any such interference, re-examination, opposition, *inter partes* review, post grant review, or any other post-grant proceedings, in each case of (1) and (2), (x) as of the Closing Date and (y) as of any Bringdown Date that could not reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product;

(D) all maintenance fees, annuities, and the like due or payable on or with respect to any such Patents have been timely paid; and

(E) each Obligor, and each of its attorneys, agents and relevant employees, have met the duty of candor and good faith required under 37 C.F.R. § 1.56, which includes a duty to disclose all information known to that individual to be "material to patentability," as such is defined in 37 C.F.R. § 1.56, and complied with any analogous Laws outside the United States.

(iv) Except as set forth in **Schedule 7.05(b)(iv)**:

(A) the IT Assets owned, used or held for use by Borrower or any of its Subsidiaries (the "***Business IT Assets***") are sufficient for the current and currently anticipated needs of the businesses of the Borrower and its Subsidiaries, and, to the knowledge of the Obligors, in the past three (3) years, there has been no unauthorized access to or unauthorized use of, or any other security incident with respect to, any (1) such Business IT Assets, or (2) any confidential or proprietary information that is in the Borrower's or any of its Subsidiaries' possession or control, in each case of (1) and (2), (x) as of the Closing Date, in a manner that, individually or in the aggregate, has resulted in or is reasonably likely to result in material liability to, or material disruption of the business operations of, the Borrower or any of its Subsidiaries or (y) as of any Bringdown Date, in a manner that, individually or in the aggregate, has resulted in or is reasonably likely to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities; and

(B) the Borrower and its Subsidiaries have taken commercially reasonable precautions consistent with applicable industry standards designed to (1) protect the confidentiality, integrity, and security of the Business IT Assets from any unauthorized intrusion, breach, use, access, interruption, destruction or modification by any Person, and (2) ensure that all Business IT Assets are functional and operate and run in a reasonable and efficient business manner, in each case of (1) and (2), (x) as of the Closing Date, except as has not, individually or in the aggregate, resulted in and is not reasonably likely to result in, material liability to, or material disruption of the business operations of, the Borrower or any of its Subsidiaries or (y) as of any Bringdown Date, except as has not, individually or in the aggregate, resulted in, and is not reasonably likely to result in, a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities;

(C) without limiting the foregoing, (1) as of the Closing Date, except as has not, individually or in the aggregate, resulted in and is not reasonably likely to result in, material liability to, or material disruption of the business operations of, the Borrower or any of its Subsidiaries or (2) as of any Bringdown Date, except as has not, individually or in the aggregate, resulted in, and is not reasonably likely to result in, a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities, the Borrower and its Subsidiaries (or, in the case of Business IT Assets owned or controlled by a third party, their respective contractors) have maintained and regularly tested commercially reasonable security, disaster recovery and business continuity plans and procedures, and the Borrower and its Subsidiaries have taken commercially reasonable measures designed to ensure that the Business IT Assets do not contain any Malicious Code, and to the knowledge of any Obligor, the Business IT Assets do not contain any Malicious Code; and

(D) (1) as of the Closing Date, except as has not, individually or in the aggregate, resulted in and is not reasonably likely to result in, material liability to, or material disruption of the business operations of, the Borrower or any of its Subsidiaries or (2) as of any Bringdown Date, except as has not, individually or in the aggregate, resulted in, and is not reasonably likely to result in, a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities, the Borrower and its Subsidiaries (x) have had and have appropriate privacy policies and data security policies in place that are in compliance in all material respects with all applicable data protection, privacy and other Laws, and generally accepted industry standards applicable to the Borrower and its Subsidiaries relating to the protection, collection, use, access, storage, maintenance, processing, transmission, distribution, transfer (including cross-border transfer) or disclosure of personally identifiable information and data, (y) are and have been in compliance with (and have contractually required Persons who have access to such information or data to comply with) such policies, Laws and standards, and contractual obligations to which the Borrower and its Subsidiaries are bound that relate to the protection, collection, use, access, storage, maintenance, processing, transmission, distribution, transfer (including cross-border transfer) or disclosure of personally identifiable information or data, and (z) have not received any written notice, and are not and have not been subject to any Claim, and, to the knowledge of any Obligor, no such notice or Claim is or has been threatened, regarding the protection, collection, use, access, storage, maintenance, processing, transmission, distribution, transfer (including cross-border transfer) or disclosure of personally identifiable information or data.

7.06 No Actions or Proceedings.

(a) **Litigation**. Except as set forth in **Schedule 7.06(a)**, there is no litigation, investigation or proceeding pending or, to the knowledge of any Obligor threatened in writing, with respect to such Obligor or any such Subsidiaries by or before any Governmental Authority or arbitrator that, (i) individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect or (ii) involves this Agreement or any other Loan Document.

(b) **Environmental Matters**. Except with respect to any matters that (either individually or in the aggregate) could not reasonably be expected to result in a Material Adverse Effect, no Obligor nor any of its Subsidiaries (i) has failed to comply with any Environmental Law or to obtain, maintain or comply with any permit, license or other approval required under any Environmental Law, (ii) has become subject to any Environmental Liability, (iii) has received any

Environmental Claim, or has knowledge that any is threatened, (iv) has entered into any agreement in which such Obligor or any Subsidiary has assumed or undertaken responsibility or obligations of any other Person with respect to any Environmental Liability or (v) has knowledge of any basis for any other Environmental Liability.

(c) **Labor Matters**. No Obligor or any of its Subsidiaries has engaged in unfair labor practices as defined in 29 U.S.C. § §152(8) and 158 of the National Labor Relations Act and there are no pending or threatened in writing labor actions, disputes, grievances, arbitration proceedings, or similar Claims or actions involving the employees of any Obligor or any of its Subsidiaries, in each case, that could reasonably be expected to have a Material Adverse Effect. There are no strike or work stoppages in existence or threatened in writing against any Obligor and to the knowledge of such Obligor, no union organizing activity is taking place, in each case, that could reasonably be expected to have a Material Adverse Effect. Except as set forth on **Schedule 7.06(c)** (as such schedule may be updated on any Bringdown Date), there are no collective bargaining agreements covering employees of any Obligor or any of its Subsidiaries.

7.07 Compliance with Laws and Agreements. Each Obligor is in compliance with all applicable Laws and all Contracts binding upon it or its property, except where the failure to do so could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Obligors and their Subsidiaries are, and all Product Commercialization and Development Activities of such Persons are being conducted in compliance with all applicable Healthcare Laws (i) as of the Closing Date, except where the failure to do so could not reasonably be expected to result in a Material Adverse Effect, and (ii) as of each Bringdown Date, except where the failure to do so could not reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product.

7.08 Taxes. Except as set forth on **Schedule 0**, each Obligor and its Subsidiaries has timely filed or caused to be filed all tax returns and reports required to have been filed and has paid or caused to be paid all Taxes required to have been paid by it, except (a) Taxes that are being contested in good faith by appropriate proceedings diligently conducted and for which adequate reserves are being maintained in accordance with GAAP or (b) to the extent that the failure to do so would not reasonably be expected to have a Material Adverse Effect.

7.09 Full Disclosure. None of the reports, financial statements, certificates or other written information (other than projections, forward-looking information and information of a general economic or industry specific nature) furnished by or on behalf of the Obligors or any of their Subsidiaries to the Administrative Agent (on behalf of itself and the Lenders) in connection with the negotiation of this Agreement and the other Loan Documents or delivered hereunder or thereunder (as modified or supplemented by other information so furnished) contains when furnished any material misstatement of material fact or omits to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not materially misleading; provided that, with respect to projected financial information, the Borrower represents only that such information was prepared in good faith based upon assumptions believed to be reasonable at the time delivered, and it being understood that such projected financial information and all other forward looking information are not to be viewed as facts and are subject to significant uncertainties and contingencies, many of which are beyond the control of the Borrower or any of its Subsidiaries, and that actual results during the period or periods covered thereby may differ significantly from such projected results and that the differences may be material.

7.10 Investment Company Act and Margin Stock Regulation.

(a) **Investment Company Act**. No Obligor is an "investment company" as defined in, or subject to regulation under, the Investment Company Act of 1940, as amended.

(b) **Margin Stock**. No Obligor is engaged principally, or as one of its important activities, in the business of extending credit for the purpose, whether immediate, incidental or ultimate, of buying or carrying Margin Stock, and no part of the proceeds of the Loans will be used, whether immediately, incidentally or ultimately, to buy or carry any Margin Stock, to extend credit to others for the purpose of buying or carrying any Margin Stock, or in any way that is in violation of Regulation T, U or X.

7.11 Solvency. The Obligors, on a consolidated basis, are and, immediately after giving effect to the making of any Loans on such date, the use of proceeds thereof, and the consummation of the Transactions, will be, Solvent.

7.12 Subsidiaries. Set forth on **Schedule 7.12** is a complete and correct list of all direct and indirect Subsidiaries of the Borrower (as such schedule may be updated on any Bringdown Date). Each such Subsidiary is duly organized and validly existing under the jurisdiction of its organization shown in said **Schedule 7.12**, and the percentage ownership by each Obligor of each such Subsidiary thereof is as shown in said **Schedule 7.12**.

7.13 Material Agreements. Except as set forth on **Schedule 7.13**, no Obligor nor any of its Subsidiaries is in default under any Material Agreement, nor does any Obligor have knowledge of (i) any Claim against it or any of its Subsidiaries for any breach of any such Material Agreement that could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product or (ii) any default by any party to any such Material Agreement that could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product.

7.14 Restrictive Agreements. Except as set forth in **Schedule 7.14**, as of the Closing Date, no Obligor or any of its Subsidiaries is subject to any Restrictive Agreement, except (i) those permitted under **Section 9.11**, (ii) restrictions and conditions imposed by Law or by the Loan Documents, (iii) any stockholder agreement, charter, by-laws, or other organizational documents of an Obligor or any of its Subsidiaries as in effect on the date hereof and (iv) limitations associated with Permitted Liens.

7.15 Real Property. **Schedule 7.15** correctly sets forth all real property that is owned or leased by the Obligors (as such schedule may be updated on any Bringdown Date), indicating in each case whether the respective property is owned or leased, the identity of the owner and lessor (if applicable) and the location of the respective property. Except as set forth in **Schedule 7.15** (as such schedule may be updated on any Bringdown Date), no Obligor owns or leases (as tenant thereof) any real property as of the Closing Date.

7.16 Pension Matters. **Schedule 7.16** sets forth (as such schedule may be updated on any Bringdown Date), a complete and correct list of, and separately identifies, (i) all Title IV Plans and (ii) all Multiemployer Plans. Each Qualified Plan, and each trust thereunder, has received a favorable determination or may rely upon an opinion letter for a preapproved plan letter from the IRS or an application for such a letter is currently being processed by the IRS with respect thereto and, as of the date of this Agreement, to the knowledge of the Obligors, nothing has occurred that would reasonably be expected to prevent, or cause the loss of, such qualification. Except for those that could not, in the aggregate, reasonably be expected to result in a Material Adverse Effect, (x) each Benefit Plan is in compliance with applicable provisions of ERISA, the Code and other Laws, (y) there are no existing or pending (or to the knowledge of any Obligor, threatened) claims (other than routine claims for benefits in the normal course), sanctions, actions, lawsuits or other proceedings or investigation involving any Benefit Plan to which any Obligor or Subsidiary thereof incurs or otherwise has or could have an obligation or any liability or Claim and (z) no ERISA Event is reasonably expected to occur. The Borrower and each of its ERISA Affiliates has met all applicable requirements under the ERISA Funding Rules with respect to each Title IV Plan, and no waiver of the minimum funding standards under the ERISA Funding Rules has been applied for or obtained. As of the most recent valuation date for any Title IV Plan, the funding target attainment percentage (as defined in Section 430(d)(2) of the Code) is at least sixty percent (60%), and neither any Obligor nor any of its ERISA Affiliates knows of any facts or circumstances that could reasonably be expected to cause the funding target attainment percentage to fall below sixty percent (60%) as of the most recent valuation date. Except for those that could not, in the aggregate, reasonably be expected to result in a Material Adverse Effect, as of the Closing Date, no ERISA Event has occurred in connection with which obligations and liabilities (contingent or otherwise) remain outstanding. To the extent applicable, each Foreign Plan has been maintained in compliance with its terms and with the requirements of any and all applicable requirements of Law and has been maintained, where required, in good standing with applicable regulatory authorities, except to the extent that the failure so to comply could not reasonably be expected, either individually or in the aggregate, to have a Material Adverse Effect. Except for those that could not, in the aggregate, reasonably be expected to result in a Material Adverse Effect, neither the Borrower nor any Subsidiary has incurred any obligation in connection with the termination of or withdrawal from any Foreign Plan that remains outstanding. Except for those that could not, in the aggregate, reasonably be expected to result in a Material Adverse Effect, the present value of the accrued benefit liabilities (whether or not vested) under each Foreign Plan that is funded, determined as of the end of the most recently ended fiscal year of the Borrower or Subsidiary, as applicable, on the basis of actuarial assumptions, each of which is reasonable, did not exceed the current value of the property of such Foreign Plan by a material amount, and for each Foreign Plan that is not funded, the obligations of such Foreign Plan are properly accrued.

7.17 Regulatory Approvals.

(a) Each Obligor and each of its Subsidiaries holds, either directly or through licensees and agents, all Product Authorizations necessary or required for the Borrower and each of its Subsidiaries to conduct, their respective operations and businesses, including its Product Commercialization and Development Activities with respect to any Material Product, in the manner currently conducted, except where the failure to hold any such Product Authorizations could not reasonably be expected to result in a Material Adverse Effect.

(b) No Obligor nor its Subsidiaries has received any written notice from the FDA or any Regulatory Authority that the FDA or such Regulatory Authority is considering suspending, revoking or limiting any Product Authorization (x) as of the Closing Date or (y) as of any Bringdown Date, in each of (x) and/or (y) where such suspension, revocation or limitation could reasonably be expected to result in a Material Adverse Effect or a material adverse effect on any Product Commercialization and Development Activities with respect to any Material Product. To the knowledge of the Obligors, the Obligors and their Subsidiaries have during the prior (2) years, made all required notices, registrations, reports and other filings with respect to any Material Product and their Product Commercialization and Development Activities, in each case, (x) as of the Closing Date, except where the failure to do so could not reasonably be expected to have a Material Adverse Effect and (y) as of any Bringdown Date, except where the failure to do so could not reasonably be expected to have a Material Adverse Effect or a material adverse effect on its Product Commercialization and Development Activities with respect to any Material Product.

(c) Except as set forth on **Schedule 7.17(c)**, and without limiting the generality of any other representation or warranty made by any Obligor hereunder or under any other Loan Document as of (x) the Closing Date and (y) as of any Bringdown Date, in each of (x) and/or (y) except as could not reasonably be expected to have a Material Adverse Effect or a material adverse effect on its Product Commercialization and Development Activities with respect to any Material Product: (i) no Obligor, nor any of its Subsidiaries nor, to the knowledge of any Obligor, any of their respective agents, suppliers, licensors or licensees have received from any Regulatory Authority within the prior (2) years any FDA Form 483s from FDA or comparable written inspection reports from other Regulatory Authorities, warning letters or written notices with respect to any Material Product or any Product Commercialization and Development Activities with respect to any Material Product, that asserts material lack of compliance with any applicable Healthcare Laws or Product Authorizations; (ii) no Obligor, nor any of its Subsidiaries nor, to the knowledge of any Obligor, any of their respective agents, suppliers, licensors or licensees have received any written notification from any Regulatory Authority within the prior two (2) years, asserting that any Material Product or any Product Commercialization and Development Activities with respect to any Material Product lacks a Material Product Authorization; (iii) to the knowledge of any Obligor there is no pending regulatory action from a Regulatory Authority, or Regulatory Authority investigation or inquiry (other than non-material routine or periodic inspections or reviews) against any Obligor, any of its Subsidiaries or, to the knowledge of any Obligor, any of their respective suppliers, licensors or licensees with respect to any Material Product or any Product Commercialization and Development Activities with respect to any Material Product; and (iv) without limiting the foregoing, (A)(1) there have been no material product recalls, safety alerts, corrections, withdrawals, marketing suspensions, product removals or comparable post-market actions (collectively, "***Post-Market Actions***") conducted, undertaken or issued by any Obligor or any of its Subsidiaries, whether voluntary, at the request, demand or order of any Regulatory Authority or otherwise, with respect to any Material Product, any Product Commercialization and Development Activities or any Material Product Authorization within the prior two (2) years, and (2) no such Post-Market Actions has been requested, demanded or ordered by any Regulatory Authority within the prior two (2) years, and, (3) to the knowledge of any Obligor, there is no basis in fact for the issuance of any such Post-Market Actions with respect to any Material Product or

any Product Commercialization and Development Activities, and (B) no threatened criminal, injunctive, seizure, detention or civil penalty action has been received by the Obligor in writing or, to the knowledge of any Obligor, been commenced by any Regulatory Authority within the prior two (2) years with respect to any Material Product or any Product Commercialization and Development Activities with respect to any Material Product, and no Obligor has entered into any consent decrees (including plea agreements) that relate to any Material Product or any Product Commercialization and Development Activities with respect to any Material Product. No Obligor nor any of its Subsidiaries, nor, to the knowledge of any Obligor, any of their respective agents, suppliers, licensees or licensors has been debarred within the last two (2) years from any federal healthcare program, where such debarment would reasonably be expected to have a Material Adverse Effect or a material adverse effect on the Product Commercialization and Development Activities with respect to any Material Product.

7.18 Mortgages. Each of the Mortgages will be effective, upon delivery of the same to the Administrative Agent in accordance with the terms of this Agreement, to create in favor of the Administrative Agent, for the benefit of the Secured Parties, a legal, valid and enforceable Lien on the Material Real Properties described therein and proceeds thereof, and when the Mortgages are validly filed in the applicable recorder's offices and all relevant mortgage Taxes and recording and registration charges are duly paid, each such Mortgage shall be, assuming the proper indexing thereof, sufficient to provide constructive notice to third parties of the Administrative Agent's Lien on, and security interest in, all right, title and interest of the Obligors in such Material Real Property and the proceeds thereof, as security for the Obligations, subject only to Permitted Liens.

7.19 OFAC; Anti-Terrorism Laws.

(a) No Obligor nor any of its Subsidiaries is in violation of any applicable Anti-Terrorism Law or engages in or conspires to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate, any applicable Anti-Terrorism Laws.

(b) No Obligor nor any of its Subsidiaries, nor, to the knowledge of any Obligor, any of their respective directors, officers, or employees (i) is currently the target of any applicable Sanctions, (ii) is located, organized or residing in any Designated Jurisdiction in violation of any applicable Sanctions, or (iii) is or has been (within the previous five (5) years) engaged in any transaction with, or for the benefit of, any Person who is now or was then the target of any applicable Sanctions or who is located, organized or residing in any Designated Jurisdiction, in violation of any applicable Sanctions. No Loan, nor the proceeds from any Loan, has been or will be used, directly or, to the knowledge of any Obligor, indirectly, to lend, contribute or provide to, or has been or will be otherwise made available for the purpose of funding, any activity or business in any Designated Jurisdiction in violation of any applicable Sanctions or for the purpose of funding any activity or business of any Person located, organized or residing in any Designated Jurisdiction or who is the subject of any applicable Sanctions, in violation of any applicable Sanctions, or in any other manner that will result in any violation by any party to this Agreement of any applicable Sanctions.

7.20 Anti-Corruption. No Obligor nor any of its Subsidiaries, nor, to the knowledge of any Obligor, any of their respective directors, officers or employees, directly or indirectly, has (i) materially violated or is in material violation of any applicable anti-corruption Law, or (ii) made, offered to make, promised to make or authorized the payment or giving of, directly or indirectly, any Prohibited Payment.

7.21 Priority of Obligations. The Obligations constitute unsubordinated obligations of the Obligors, and except for any obligations which have priority under applicable Law, rank at least pari passu in right of payment with all other unsubordinated Indebtedness of the Obligors.

7.22 Royalty and Other Payments. Except as set forth on **Schedule 7.22**, as of the Closing Date, no Obligor, not any of its Subsidiaries, is obligated to pay any royalty, milestone payment or any other contingent payment in respect of any Material Product.

7.23 Non-Competes. Neither the Borrower, any other Obligor, nor any of their respective Subsidiaries, nor, to the knowledge of such Obligor or Subsidiary, any of its or their respective directors, officers or employees, is subject to a non-compete agreement that prohibits or will interfere in any material respect with any of the Product Commercialization and Development Activities with respect to any Material Product, including the development, commercialization or marketing of any Material Product.

SECTION 8.
AFFIRMATIVE COVENANTS

Each Obligor covenants and agrees with the Administrative Agent and the Lenders that, until the Commitments have expired or been terminated and all Obligations (other than any inchoate indemnification and expense reimbursement obligations for which no claim has been made) have been paid in full in cash:

8.01 Financial Statements and Other Information. The Borrower shall furnish to the Administrative Agent (who shall furnish to the Lenders):

(a) within thirty (30) days after the end of any month, unaudited interim financial statements as of the end of such month (prepared on a consolidated basis), including balance sheet and related statements of income, in the form customarily provided to senior management of the Borrower prior to the Closing Date and provided to the Lenders prior to the Closing Date;

(b) as soon as available and in any event within forty five (45) days after the end of each fiscal quarter of each fiscal year (i) the consolidated balance sheets of the Borrower and its Subsidiaries as of the end of such fiscal quarter and (ii) the related consolidated statements of income, shareholder's equity and cash flows of the Borrower and its Subsidiaries for such quarter and the portion of the fiscal year through the end of such fiscal quarter, in each case prepared in accordance with GAAP consistently applied, all in reasonable detail and setting forth in comparative form the figures for the corresponding period in the preceding fiscal year; provided that documents required to be furnished pursuant to this **Section 8.01(b)** shall be deemed furnished on the date that such documents are publicly available on "EDGAR" or the Borrower's website;

(c) as soon as available and in any event within one hundred and fifty (150) days after the end of each fiscal year (i) the consolidated balance sheets of the Borrower and its Subsidiaries as of the end of such fiscal year and (ii) the related consolidated statements of income, shareholders' equity and cash flows of the Borrower and its Subsidiaries for such fiscal year, in each case prepared in accordance with GAAP consistently applied, all in reasonable detail and setting forth in comparative form the figures for the previous fiscal year, accompanied by (x) [reserved] and (y) a report and opinion thereon of a firm of independent certified public accountants of recognized national standing reasonably acceptable to the Administrative Agent, which report and opinion shall be prepared in accordance with generally accepted auditing standards and shall be permissible to be subject to any "going concern" or like qualification or exception or emphasis of matter of going concern footnote or any qualification or exception as to the scope of such audit, and in the case of such consolidated financial statements, certified by a Responsible Officer of the Borrower; provided that documents required to be furnished pursuant to this **Section 8.01(c)** shall be deemed furnished on the date that such documents are publicly available on "EDGAR" or the Borrower's website;

(d) together with the financial statements required pursuant to **Sections 8.01(b)** and **(c)**, a compliance certificate signed by the chief financial or accounting Responsible Officer of the Borrower as of the end of the applicable accounting period (which delivery may be by electronic communication including email and shall be deemed to be an original, authentic counterpart thereof for all purposes) substantially in the form of **Exhibit E** (a "***Compliance Certificate***") including, among others, (i) a statement that (x) such financial statements fairly present in all material respects the financial condition of the Borrower and its Subsidiaries as at such date and (y) the results of operations of the Borrower and its Subsidiaries for the period ended on such date have been prepared in accordance with GAAP consistently applied, subject to changes resulting from normal, year-end audit adjustments and except for the absence of notes and (ii) details of any other issues that are material that are raised by auditors and any occurrence or existence of any event, circumstance, act or omission that would cause any representation or warranty contained in **Section 7.07**, **Section 7.17** or **Section 7.21** to be incorrect in any material respect (or in any respect if such representation or warranty is qualified by materiality or by reference to Material Adverse Effect or Material Adverse Change) if such representation or warranty were to be made at the time of delivery of a Compliance Certificate. For the avoidance of doubt, no representation or warranty contained in **Section 7.07**, **Section 7.17** or **Section 7.21** is required to be, shall be or shall be deemed to be made in connection with a delivery of any Compliance Certificate;

(e) after being prepared by the Borrower and approved by its Board, and promptly following the Administrative Agent's request therefor, a consolidated budget for the Borrower and its Subsidiaries for the fiscal year to which such budget relates; provided that, for each fiscal year, on or before the sixtieth (60th) day following the beginning of such fiscal year, the Borrower shall prepare, and its Board shall approve such consolidated budgets for such fiscal year, and the Borrower shall notify the Administrative Agent promptly after the Board has given such approval;

(f) promptly after the same are released, copies of all press releases (other than any press release that is immaterial, routine or administrative in nature); provided that documents required to be furnished pursuant to this **Section 8.01(f)** shall be deemed furnished on the date that such documents are publicly available on "EDGAR" or the Borrower's website;

(g) promptly, and in any event within five (5) Business Days after receipt thereof by an Obligor thereof, copies of each notice or other correspondence received from (i) any securities regulator or stock exchange to the authority of which any Obligor may become subject from time to time, concerning any investigation or possible investigation or other inquiry by such agency regarding financial or other operational results of such Obligor, in each case, excluding any investigation or inquiry that is immaterial, routine or administrative in nature or (ii) copies of any material written correspondence or any other material written communication with the FDA or any other regulatory body that alleges a material violation of applicable Healthcare Laws or relating to any event or circumstance which could reasonably be expected to result in liability to the Borrower in excess of $500,000; provided that documents required to be furnished pursuant to this **Section 8.01(g)** shall be deemed furnished on the date that such documents are publicly available on "EDGAR" or the Borrower's website;

(h) promptly after the same are available and in any event within five (5) days after the sending or filing thereof, copies of each annual report, proxy or financial statement or other report or communication generally sent to the preferred stockholders of each Obligor and its Subsidiaries (other than any report or any communication that is immaterial, routine or administrative in nature), and copies of all annual, regular, periodic and special reports and registration statements which any Obligor or its Subsidiaries may file or be required to file with any securities regulator or stock exchange to the authority of which such Obligor or such Subsidiary, as applicable, may become subject from time to time; provided that documents required to be furnished pursuant to this **Section 8.01(h)** shall be deemed furnished on the date that such documents are publicly available on "EDGAR" or the Borrower's website;

(i) the information regarding insurance maintained by the Borrower and its Subsidiaries as and when required under **Section 8.05**;

(j) promptly, and in any event within five (5) Business Days after the Borrower obtains knowledge of any Claim related to any Product or inventory involving more than $1,000,000, written notice thereof from a Responsible Officer of the Borrower which notice shall include a statement setting forth details of such return, recovery, dispute or claim;

(k) as soon as possible and in any event within five (5) Business Days after September 30, 2023 and after the end of each calendar month thereafter, an officer's certificate signed by a Responsible Officer of the Borrower certifying that as of the last day of such calendar month, the Borrower is in compliance with the minimum liquidity requirement set forth in **Section 10.01**, which evidence may be in the form of bank account statements of the Obligors;

(l) promptly, and in any event within fifteen (15) calendar days after the end of any calendar month (or such longer period as the Administrative Agent may agree), a report for such period setting forth in reasonable detail enrollment details for Revitalize-1, including but not limited, to (A) the number of active sites, (B) the number of patients enrolled during such reporting period, (C) cumulative enrollment;

(m) promptly, and in any event within forty-five (45) calendar days after the end of any fiscal quarter (or such longer period as the Administrative Agent may agree), a report for such period setting forth the number of commercial patients treated with the Revita procedure as part of O-US Commercialization, to the extent such report is not included in the board materials delivered for such corresponding period pursuant to **Section 8.17**;

(n) [reserved];

(o) such other information respecting the businesses, financial performance, operations condition of the assets or liabilities of the Obligors (including with respect to the Collateral), taken as a whole, as the Administrative Agent or Lenders may from time to time reasonably request;

(p) notwithstanding any other requirement of this Agreement or any other Loan Document, upon the written request of any Lender (so long as such written request is in effect, a "***Public Lender***"), each Obligor will not, and will cause each of its Subsidiaries and Affiliates and its and each of their respective officers, directors, employees, attorneys, representatives and agents to not, provide such Lender with any material nonpublic information regarding the Borrower or any of its Subsidiaries or Affiliates without the express prior written consent of such Lender. Notwithstanding anything to the contrary herein, (i) any information provided to any Lender or the Administrative Agent by the Borrower, its Subsidiaries, Affiliates, and its and each of their respective officers, directors, employees, attorneys, representatives and agents, to the extent the Borrower is a private company, shall be deemed to be material nonpublic information and (ii) any information provided to any Lender or the Administrative Agent by the Borrower, its Subsidiaries, Affiliates, and its and each of their respective officers, directors, employees, attorneys, representatives and agents, to the extent the Borrower is a public company, (x) to the extent such information is filed with any securities regulator or stock exchange to the authority of which such Obligor or such Subsidiary, as applicable, may become subject from time to time, shall be deemed to be public information and (y) any other information shall be deemed material nonpublic information. At any time any Public Lender may deliver written notice to the Borrower notifying the Borrower that it no longer wishes to be a Public Lender (a "***Public Lender Notice***"), at which time it will cease to be a Public Lender until such time as it delivers another written request to become a Public Lender. The Public Lender Notice shall not apply retroactively, and the Administrative Agent shall have no liability with respect to any material nonpublic information regarding the Borrower or any of its Subsidiaries or Affiliates shared by the Administrative Agent with any Lender prior to the Administrative Agent's receipt of such Public Lender Notice; and

(q) notwithstanding any other requirement of this Agreement or any other Loan Document, any material delivered under this Agreement or the Loan Documents may be redacted by Borrower, in order to (i) prevent disclosure relating to the Borrower's strategy regarding the Loans, (ii) preserve attorney-client privilege or (iii) protect individually identifiable health information (as defined under HIPAA) or other confidential or sensitive information relating to healthcare patients; provided, further, that such redactions are restricted so as to be only as extensive as is reasonably necessary in order to exclude or prevent access to information described in **clauses (i)**, **(ii)** or **(iii)**.

8.02 Notices of Material Events. The Borrower shall furnish to the Administrative Agent (who shall furnish to the Lenders) written notice promptly of the occurrence of the following, and in any event, within three (3) Business Days of:

(a) the occurrence of any Default or Event of Default;

(b) the occurrence of any event or series of related events with respect to the property or assets of the Borrower or any of its Subsidiaries resulting in a Loss aggregating $500,000 or more;

(c) (i) any proposed acquisition of stock, assets or property by the Borrower or any of its Subsidiaries that could reasonably be expected to result in a Material Environmental Liability, and (ii) any spillage, leakage, discharge, disposal, leaching, migration or release of any Hazardous Material by the Borrower or any of its Subsidiaries required to be reported to any Governmental Authority and that would reasonably be expected to result in Material Environmental Liability;

(d) the assertion of any Claim under any Environmental Law by any Person against, or with respect to the activities of, the Borrower or any of its Subsidiaries and any alleged liability or non-compliance with any Environmental Laws or any permits, licenses or authorizations issued pursuant to Environmental Laws, in each case, which could reasonably be expected to result in a Material Environmental Liability;

(e) the filing or commencement of any action, suit or proceeding by or before any arbitrator or Governmental Authority against or affecting the Borrower or any of its Affiliates that would reasonably be expected to result in a Material Adverse Effect;

(f) (i) the occurrence of any ERISA Event or any Foreign Plan Event that could, in the aggregate, reasonably be expected to result in a Material Adverse Effect, (ii) the intention of any Obligor or ERISA Affiliate to file any notice of intent to terminate any Title IV Plan, a copy of such notice or (iii) the filing by any Obligor or ERISA Affiliate of a request for a minimum funding waiver under Section 412 of the Code with respect to any Title IV Plan or Multiemployer Plan, in each case in writing and in reasonable detail (including a description of any action that any Obligor or ERISA Affiliate proposes to take with respect thereto, together with a copy of any notice filed with the PBGC or the IRS pertaining thereto);

(g) to the extent it would reasonably be expected to have a Material Adverse Effect, (i) the termination of any Material Agreement other than in accordance with its terms as in effect on the date that such Material Agreement or any amendment or modification thereof was provided to the Administrative Agent and not as a result of a breach or default, (ii) the receipt by the Borrower or any of its Subsidiaries of any notice of a material breach or default under any Material Agreement (and a copy thereof) asserting a default by such Obligor or any of its Subsidiaries where such alleged default would permit such counterparty to terminate such Material Agreement, or (iii) any material amendment to a Material Agreement; provided, that the Borrower shall not be required to provide such notice if such documents become publicly available on "EDGAR" or the Borrower's website within the time period notice would otherwise be required pursuant to this **Section 8.02**;

(h) any material change in accounting policies or financial reporting practices by the Borrower or any of its Subsidiaries (other than as required under GAAP);

(i) any labor controversy resulting in or threatening to result in any strike, work stoppage, boycott, shutdown or other material labor disruption against or involving an Obligor that could reasonably be expected to result in a Material Adverse Effect;

(j) written Claim received by the Borrower or any of its Subsidiaries of actual or alleged infringement, misappropriation or other violation of any Intellectual Property by or against the Borrower or any of its Subsidiaries that would, if proven true, reasonably be expected to result in a Material Adverse Effect;

(k) any Contract entered into by the Borrower or any of its Subsidiaries in connection with any material Claim of actual or alleged infringement, misappropriation or other violation of any Intellectual Property by or against the Borrower or any of its Subsidiaries;

(l) [reserved];

(m) any change to any Obligor's or any of its Subsidiaries' ownership of any Controlled Account, by delivering the Administrative Agent a notice setting forth a complete and correct list of all such accounts as of the date of such change;

(n) any event or occurrence causing any supply chain disruption or shortage in raw materials of any kind that results in, or would reasonably be expected to result in, a Material Adverse Effect; and

(o) any other development that results in, or could reasonably be expected to result in, a Material Adverse Effect.

Each notice delivered under this **Section 8.02** shall be accompanied by a statement of a Responsible Officer of the Borrower setting forth the details of the event or development requiring such notice and any action taken or proposed to be taken with respect thereto. Nothing in this **Section 8.02** is intended to waive, consent to or otherwise permit any action or omission that is otherwise prohibited by this Agreement or any other Loan Document; provided that any documents or notices required to be furnished pursuant to this **Section 8.02** shall be deemed furnished on the date that such documents are publicly available on "EDGAR" or the Borrower's website.

8.03 Existence. Such Obligor shall, and shall cause each of its Subsidiaries to, preserve, renew and maintain in full force and effect its legal existence; provided that the foregoing shall not prohibit any merger, amalgamation, consolidation, liquidation or dissolution permitted under **Section 9.03** or any Asset Sale permitted under **Section 9.09**.

8.04 Payment of Obligations. Such Obligor shall, and shall cause each of its Subsidiaries to, pay, discharge or otherwise satisfy as the same shall become due and payable, all of its obligations, including (i) all Tax liabilities imposed upon it or upon its properties or assets prior to the date on which penalties attach thereto, and all lawful claims for labor, materials and supplies which, if unpaid, might become a Lien upon any properties or assets of the Borrower or any of its Subsidiaries not constituting a Permitted Lien, except to the extent such Taxes or such claims are being contested in good faith by appropriate proceedings diligently conducted and adequate reserves in accordance with GAAP are being maintained by such Obligor or such Subsidiary and (ii) all lawful claims which, if unpaid, would by law become a Lien upon its property not constituting a Permitted Lien.

8.05 Insurance. Such Obligor shall, and shall cause each of its Subsidiaries to maintain, with financially sound and reputable insurance companies, insurance in such amounts and against such risks as are customarily maintained by companies engaged in the same or similar businesses operating in the same or similar locations. Upon the request of the Administrative Agent, the Borrower shall furnish the Administrative Agent from time to time with (i) material information as to the insurance carried by it and, if so requested, copies of all such insurance policies and (ii) a certificate from the Borrower's insurance broker or other insurance specialist stating that all premiums then due on the policies relating to insurance on the Collateral have been paid and that such policies are in full force and effect. Receipt of notice of termination or cancellation of any such insurance policies or reduction of coverages or amounts thereunder shall entitle the Secured Parties to renew any such policies, cause the coverages and amounts thereof to be maintained at levels required pursuant to the first sentence of this **Section 8.05** or otherwise to obtain similar insurance in place of such policies, and in each case, the Borrower shall be responsible for the reasonable and documented cost of such insurance (to be payable on demand). The amount of any such reasonable and documented expenses shall accrue interest at the Default Rate if not paid on demand and shall constitute "Obligations." Such Obligor shall cause all such property, casualty or liability policies of insurance to (i) designate the Administrative Agent (for its benefit and the benefit of the Lenders) as additional insured or loss payee, as applicable, and (ii) provide that no cancellation of the policies shall be made without at least ten (10) days prior written notice to the Administrative Agent. Such Obligors shall deliver to the Administrative Agent insurance certificates certified by such Obligor's insurance brokers, and appropriate endorsements showing the Administrative Agent as loss payee and additional insured as required above, as to the existence and effectiveness of each such policy of insurance.

8.06 Books and Records; Inspection Rights. Such Obligor shall, and shall cause each of its Subsidiaries to, keep proper books of record and account in which full, true and correct (in all material respects) entries are made of all dealings and transactions in relation to its business and activities. Such Obligor shall, and shall cause each of its Subsidiaries to, permit any representatives designated by the Administrative Agent or the Lenders, upon reasonable prior notice, to visit and inspect its properties, to examine and make extracts from its books and records, and to discuss its affairs, finances and condition (financial or otherwise) with its officers and independent accountants (so long as a representative of the Borrower is provided a reasonable opportunity to participate in any such discussion), during normal business hours (but not more often than once per year in total for all such visits and inspections unless an Event of Default has occurred and is continuing) as the Administrative Agent or the Lenders may reasonably request; provided that such representative shall use its commercially reasonable efforts to minimize disruption to the business and affairs of the Borrower as a result of any such visit, inspection, examination or discussion. Notwithstanding anything to the contrary contained herein or any other provision of the Loan Documents, no Obligor nor any of its Subsidiaries shall be required to disclose or permit the inspection or discussion of, any document, information or other matter (i) that constitutes trade secrets or proprietary information, (ii) in respect of which disclosure to any Lender (or their respective representatives or contractors) is prohibited by any applicable Law or any binding agreement with a third party (so long as such agreement is not entered into in contemplation of this Agreement) or (iii) that is subject to attorney-client or similar privilege, which could reasonably be expected to be lost or forfeited if disclosed to the Administrative Agent or any Lender. The Borrower shall pay all reasonable and documented costs of (a) one such inspection per calendar year if no Event of Default has occurred and is continuing and (b) all such inspections during a continuing Event of Default.

8.07 Compliance with Laws and Other Obligations. Such Obligor shall, and shall cause each of its Subsidiaries to, (i) comply with all Laws (including applicable Anti-Terrorism Laws, applicable Sanctions and Environmental Laws) applicable to it and its business activities, (ii) comply with all Healthcare Laws and Governmental Approvals (including Product Authorizations) applicable to it and its business activities and (iii) remain in compliance with, and perform all obligations under all Material Agreements to which it is a party, except, in the case of **clauses (i)**, **(ii)** and **(iii)** above, where the failure to do so could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect. Each Obligor shall maintain in effect and enforce policies and procedures reasonably designed to promote compliance by such Obligor, its Subsidiaries and their respective directors, officers, employees and agents with applicable Anti-Terrorism Laws and applicable Sanctions.

8.08 Maintenance of Properties, Intellectual Property, Etc.

(a) Such Obligor shall, and shall cause each of its Subsidiaries to, maintain and preserve all of its assets and properties (including all assets and properties, whether tangible or intangible, relating to its Products or Product Commercialization and Development Activities) necessary or useful in the conduct of its business in good working order and condition in accordance with the general practice of other Persons of similar character and size, ordinary wear and tear and damage from casualty or condemnation excepted and except where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

(b) Such Obligor shall, and shall cause each of its Subsidiaries to, use commercially reasonable efforts to renew, file for, prosecute, enforce and maintain all Material Intellectual Property, owned or controlled by such party except where the failure to do so, individually or in the aggregate, could not reasonably be expected to result in a Material Adverse Effect.

8.09 Licenses. Such Obligor shall, and shall cause each of its Subsidiaries to, obtain and maintain all Governmental Approvals necessary in connection with the execution, delivery and performance of the Loan Documents, the consummation of the Transactions or the operation and conduct of its business and ownership of its properties (including its Product Commercialization and Development Activities), except where the failure to do so could not reasonably be expected to have a Material Adverse Effect.

8.10 Semi-Annual Calls. At the request of the Administrative Agent, the Borrower shall hold a conference call with the Administrative Agent and the Lenders and the Borrower's senior management team at reasonable times to be mutually agreed to with the Administrative Agent and the Lenders to discuss the financial results of operations of the Borrower and its Subsidiaries; provided that no more than one call per six calendar months shall be required.

8.11 Use of Proceeds. The proceeds of the Loans shall be used only as provided in **Section 2.05**. No part of the proceeds of the Loans shall be used, whether directly or indirectly, for any purpose that entails a violation of any of the Regulations of the Board of Governors of the Federal Reserve System, including Regulations T, U and X.

8.12 Certain Obligations Respecting Subsidiaries; MSC Subsidiaries; Further Assurances.

(a) **Subsidiary Guarantors, Etc.** In the event that the Borrower or any of its Domestic Subsidiaries shall form or acquire any new Domestic Subsidiary (other than any MSC Subsidiary), the Borrower shall promptly (and in any event within thirty (30) calendar days (subject to extensions consented to by the Administrative Agent in its sole discretion (such consent not to be unreasonably withheld, delayed or conditioned)):

(i) cause such new Domestic Subsidiary to become a "Subsidiary Guarantor" hereunder pursuant to a Guarantee Assumption Agreement and a "Grantor" under the Security Agreement;

(ii) take such action or cause such Domestic Subsidiary to take such action (including joining the Security Agreement and delivering shares of stock together with undated transfer powers executed in blank, applicable control agreements and other instruments) as shall be reasonably necessary or desirable (as determined by the Administrative Agent) in order to create and perfect, in favor of the Administrative Agent, for the benefit of the Secured Parties, valid and enforceable first priority Liens (subject only to Permitted Liens), on substantially all of the personal property of such new Subsidiary as collateral security for the Obligations hereunder as and when required by the terms of the Security Agreement; provided that any such security interest or Lien shall be subject to the relevant requirements of the Security Documents and the Intercompany Subordination Agreement;

(iii) deliver such proof of corporate action, incumbency of officers, and other applicable documents as is consistent with those delivered by each Obligor pursuant to **Section 6.01** or as the Administrative Agent shall reasonably request; and

(iv) cause each new Domestic Subsidiary (other than any Subsidiary that is not an Obligor) to become a party to the Intercompany Subordination Agreement.

(b) **Foreign Subsidiaries**. Subject to the terms of the Security Agreement, with respect to any new "first-tier" Foreign Subsidiary created or acquired by the Borrower or any other Obligor after the Closing Date (other than any Immaterial Foreign Subsidiary), promptly (A) cause the applicable Obligor that owns the Equity Interests of such "first-tier" Foreign Subsidiary to execute and deliver to the Administrative Agent such Foreign Pledge Agreements as the Administrative Agent deems necessary or reasonably advisable to grant to the Administrative Agent, for the benefit of the Secured Parties, a perfected security interest in the Equity Interests of such new Foreign Subsidiary that is directly owned by any such Obligor, (B) deliver to the Administrative Agent, the certificates, if any, representing such Equity Interests, together with undated stock powers, in blank, executed and delivered by a duly authorized officer of the relevant Obligor, and take such other action as may be necessary or, in the opinion of the Administrative Agent, desirable to perfect the Administrative Agent's security interest therein, and (C) if reasonably requested by the Administrative Agent, deliver to the Administrative Agent opinions of counsel relating to the matters described above, which opinions of counsel shall be in form and substance reasonably satisfactory to the Administrative Agent.

(c) **MSC Subsidiaries**. At any time that any MSC Subsidiary maintains assets, Borrower shall cause the MSC Investment Conditions to be met.

(d) **Further Assurances**.

(i) such Obligor shall take such action from time to time as shall reasonably be requested by the Administrative Agent to effectuate the purposes and objectives of this Agreement and the Security Agreement;

(ii) [reserved];

(iii) without limiting the generality of the foregoing, each Obligor shall, and shall cause each Person that is required to be a Subsidiary Guarantor to, take such action from time to time (including joining the Security Agreement and delivering shares of stock together with undated transfer powers executed in blank, applicable control agreements and other instruments and executing and delivering any other agreements, documents or instruments governed under non-U.S. law) as shall be required by the terms of the Security Documents or reasonably requested by the Administrative Agent to create, in favor of the Administrative Agent for the benefit of the Secured Parties, perfected security interests and Liens in substantially all of the personal property (other than Excluded Assets (as defined in the Security Agreement)) of such Obligor as collateral security for the Obligations as and when required by the terms of the Security Agreement; provided that any such security interest or Lien shall be subject to the relevant requirements of the Security Documents; provided, further that, without limiting the right of the Administrative Agent to require a Lien or security interest in any newly acquired or created Subsidiary or asset, upon the prior written request of the Borrower, the Borrower and the Administrative Agent shall consult, in good faith, as to whether the cost of obtaining a Lien or security interest thereon would be unreasonably excessive relative to the benefit thereof. Notwithstanding anything to the contrary herein or in any other Loan Document, except in connection with an Obligor that is a Foreign Subsidiary, none of the Obligors and their respective Subsidiaries shall be required to take any action in any non-U.S. jurisdiction or required by the Laws of any non-U.S. jurisdiction to create any security interests in assets located or titled outside of the United States or to perfect or make enforceable any security interests in any such assets (it being understood that there shall be no security agreements, pledge agreements or other collateral documents governed under the laws of any jurisdiction other than the United States, any State thereof or the District of Columbia), other than (A) with respect to such non-U.S. jurisdictions of a Foreign Subsidiary that is also an Obligor, (B) Germany and the United Kingdom, (C) any jurisdiction into which any Obligor transfers the location of Collateral previously perfected in the jurisdictions of subsections (A) and (B), and (D) in the case of each of the foregoing **clauses (A)-(C)**, the assets located or titled outside of the United States and in the foregoing jurisdictions are material to the business of the Obligors and their Subsidiaries.

(e) If the Borrower or any other Obligor acquires any Material Real Property located after the Closing Date (i) the Borrower shall notify the Administrative Agent thereof promptly (and in any event, within five (5) Business Days following the acquisition thereof) and (ii) subject to **clause (iii)** below, within sixty (60) days after the date of such acquisition (or such longer period as may be agreed by the Administrative Agent) the Borrower shall or shall cause the applicable Obligor to deliver to the Administrative Agent, with respect to such Material Real Property located, (i) counterparts of a Mortgage with respect to such Material Real Property, duly executed,

notarized (to the extent required by applicable Law) and delivered by the applicable Obligor and suitable for recording or filing in all filing or recording offices that the Administrative Agent may reasonably deem necessary or desirable in order to create a valid and enforceable Lien subject to no other Liens except Permitted Liens, at the time of recordation thereof with all filing and recording taxes and fees having been paid or otherwise provided for in a manner reasonably satisfactory to the Administrative Agent; (ii) with respect to the Mortgage encumbering such Material Real Property, customary opinions of local counsel in the state or jurisdiction in which such Material Real Property is located regarding the enforceability of such Mortgage, and any related fixtures and, in the state or jurisdiction where the applicable Obligor granting such Mortgage is organized, an opinion regarding due authorization, execution and delivery of such Mortgage, (iii) with respect to each such mortgaged property located in the United States, the completed "Life-of-Loan" Federal Emergency Management Agency ("***FEMA***") Standard Flood Hazard Determination with respect to any such Material Real Property subject to the applicable FEMA rules and regulations, (iv) if any Material Real Property is located in an area determined by FEMA to have special flood hazards, evidence of such flood insurance as may be required under applicable Law, including Regulation H of the Board of Governors and the other Flood Insurance Laws and as required under **Section 8.12**, (v) a policy or policies of title insurance (or marked unconditional commitment to issue such policy or policies) in the amount equal to not less than 100% (or such lesser amount as reasonably agreed to by the Administrative Agent, acting at the direction of the Majority Lenders) of the fair market value of such mortgaged property and fixtures, as reasonably determined by the Borrower and agreed to by the Administrative Agent, acting at the direction of the Majority Lenders, issued by a nationally recognized title insurance company reasonably acceptable to the Administrative Agent, acting at the direction of the Majority Lenders, insuring the Lien of each such Mortgage as a first priority Lien on the mortgaged property described therein, free of any other Liens except as expressly permitted by **Section 9.02**, together with such endorsements (other than a creditor's rights endorsement), coinsurance and reinsurance as the Administrative Agent, acting at the direction of the Majority Lenders, may reasonably request to the extent available in the applicable jurisdiction at commercially reasonable rates, (vi) such affidavits, instruments of indemnification (including a so-called "gap" indemnification) as are customarily requested by the title company to induce the title company to issue the title policies and endorsements contemplated above, (vii) evidence reasonably acceptable to the Administrative Agent, acting at the direction of the Majority Lenders, of payment by the Borrower or any other Subsidiary of all title policy premiums, search and examination charges, escrow charges and related charges, mortgage recording taxes, fees, charges, costs and expenses required for the recording of the Mortgages and issuance of the title policies referred to above, (viii) a survey of each mortgaged property in such form as shall be required by the title company to issue the so-called comprehensive and other survey-related endorsements and to remove the standard survey exceptions from the title policies and endorsements contemplated above (provided, however, that a survey shall not be required to the extent that the issuer of the applicable title insurance policy provides reasonable and customary survey-related coverages (including, without limitation, survey-related endorsements) in the applicable title insurance policy based on an existing survey and/or such other documentation as may be reasonably satisfactory to the title insurer), and (ix) such legal opinions as the Administrative Agent may reasonably request with respect to any such Mortgage or Material Real Property.

8.13 Termination of Non-Permitted Liens. In the event that any Obligor shall become aware of, or be notified by the Administrative Agent or any Lender of the existence of, any outstanding Lien against any assets or property of such Obligor or any of its Subsidiaries, which Lien is not a Permitted Lien, such Obligor shall promptly terminate or cause the termination of such Lien. Any such termination shall not act as a waiver or otherwise limit any Default or Event of Default arising as a result of the existence of such Lien.

8.14 Maintenance of Regulatory Approvals, Contracts, Intellectual Property, Etc. Each Obligor shall, and shall cause each of its Subsidiaries (to the extent applicable) to, (i) maintain in full force and effect all Product Authorizations, Material Agreements, Material Intellectual Property and other rights, interests or assets (whether tangible or intangible) reasonably necessary for the operations of such Person's business, except where the failure to so maintain would not reasonably be expected to have a Material Adverse Effect, (ii) maintain in full force and effect, and pay all costs and expenses relating to, such Product Authorizations, Material Agreements and Material Intellectual Property owned, used or controlled by such Obligor or any such Subsidiary that are used in or necessary for any related Product Commercialization and Development Activities, except where the failure to so maintain and pay would not reasonably be expected to have a Material Adverse Effect, (iii) promptly after obtaining knowledge thereof, notify the Administrative Agent of any material infringement, misappropriation or other violation by any Person of such Obligor's or any such Subsidiaries' Material Intellectual Property that is owned or purported to be owned by or exclusively licensed to such Obligor or such Subsidiaries, and use commercially reasonable efforts to stop, curtail or abate such infringement, misappropriation or other violation if determined appropriate by the Borrower in the exercise of its business judgment, in each case, where such failure to do any of the foregoing would not reasonably be expected to have a Material Adverse Effect, and (iv) except as set forth on **Schedule 7.05(b)**, promptly after obtaining knowledge thereof, notify the Administrative Agent of any Claim by any Person that the conduct of the business of Borrower or any of its Subsidiaries, including in connection with any Product Commercialization and Development Activities, has infringed, misappropriated or otherwise violated any Intellectual Property of such Person, in each case, where such Claim could reasonably be expected to have a Material Adverse Effect.

8.15 ERISA Compliance. Such Obligor shall comply, and shall cause each of its Subsidiaries to comply, with the provisions of ERISA with respect to any Benefit Plans to which such Obligor or such Subsidiary is a party as an employer, except where the failure to do so could not reasonably be expected to have a Material Adverse Effect.

8.16 Cash Management. Such Obligor shall:

(a) maintain at all times after the Account Control Agreement Completion Date an aggregate amount of cash of the Obligors at least equal to the Minimum Liquidity Amount in deposit accounts, disbursement accounts, investment accounts (and other similar accounts) and/or lockboxes with a bank or financial institution within the U.S. which has executed and delivered to the Administrative Agent an account control agreement, in form and substance reasonably acceptable to the Administrative Agent (each such deposit account, disbursement account, investment account (or similar account) and lockbox, a "***Controlled Account***"); provided that each such Controlled Account shall be a cash collateral account, with all cash, checks and other similar items of payment in such account securing payment of the Obligations, and each Obligor shall have granted a Lien to the Administrative Agent, for the benefit of the Secured Parties, over such Controlled Accounts;

(b) deposit promptly, and in any event no later than five (5) Business Days after the date of receipt thereof (or such longer period of time as agreed by the Administrative Agent in its sole discretion), all cash, checks, drafts or other similar items of payment and relating to or constituting payments made in respect of any and all accounts and other rights and interests into, on and after the Account Control Agreement Completion Date, Controlled Accounts;

(c) at any time after the occurrence and during the continuance of an Event of Default, at the request of the Administrative Agent, each Obligor shall cause all payments constituting proceeds of accounts to be directed into lockbox accounts under agreements in form and substance satisfactory to the Administrative Agent;

(d) not maintain any deposit accounts, or accounts holding investment property, except with respect to which the Administrative Agent has an account control agreement; provided that no account control agreement shall be required for Excluded Accounts and provided, further, that with respect to any account control agreement entered into with respect to the JPMorgan Chase Bank account ending -1161, such agreement may be terminated if after the Borrower's delivery of an account control agreement over the Borrower's JPMorgan Chase Bank account ending -4353, such account is an Excluded Account; and

(e) notwithstanding the foregoing, it is agreed that the Obligors shall have until the date that is thirty (30) days following the closing date of a Permitted Acquisition (or such later date following the closing date of such Permitted Acquisition as may be agreed to by the Administrative Agent) to comply with the provisions of this **Section 8.16** with regard to such accounts (other than Excluded Accounts) acquired by the Obligors in connection with such Permitted Acquisition.

8.17 Board Observer.

(a) The Borrower shall permit a single designee of the Administrative Agent to be a board observer to the Borrower (the "***Board Observer***"). In such capacity, the Board Observer shall be entitled to attend all regularly scheduled meetings of the Board, including but not limited to regularly scheduled meetings occurring each fiscal quarter, and may attend all other meetings of the Board of the Borrower by invitation. The Borrower shall ensure that the Board Observer is invited to each such meeting at the same time as each other member of the Board and that such Board Observer receives all board materials at the same time as each other member of the Board (which board materials Administrative Agent shall share promptly with each Lender); provided that any such material may be redacted by Borrower, and Borrower may exclude the Board Observer from meetings of the Board, (i) if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between the Company and its counsel or result in disclosure of trade secrets or a conflict of interest, (ii) if such Board Observer is a competitor of the Company, (iii) in order to protect individually identifiable health information (as defined under HIPAA), or (iv) to the extent such materials or meetings relate to the executive committee or compensation audit committee; provided, further, that such redactions and the exclusion of the Board Observer are restricted so as to be only as extensive as is reasonably necessary in order to exclude or prevent access to the Board Observer to information described herein. If appointed, the Board Observer may resign or withdraw at any time, or, at the request of the Borrower or the Administrative Agent, be replaced by a designee of the Administrative Agent that is reasonably acceptable to the Borrower.

(b) Without otherwise limiting the Administrative Agent's and Lenders' right to expense reimbursement hereunder, the Borrower shall reimburse the Administrative Agent for all reasonable and documented out-of-pocket expenses incurred by or on behalf of the Administrative Agent or the Board Observer in attending any in-person meetings of the board of directors thereof or otherwise in connection with the exercise of their rights hereunder.

8.18 Post-Closing Obligations.

(a) **Controlled Accounts**. Within (i) two (2) Business Days following the Closing Date and (ii) forty-five (45) days following the Closing Date with respect to the JPMorgan Chase Bank account ending -4353 (or such longer period of time as agreed by the Administrative Agent in its sole discretion) (the "***Account Control Agreement Completion Date***"), the Administrative Agent shall have received evidence that (i) all deposit accounts, lockboxes, disbursement accounts, investment accounts or other similar accounts (other than Excluded Accounts) of each Obligor located within the U.S. are Controlled Accounts to the extent required to comply with the requirement of **Section 8.16** and (ii) such Controlled Accounts are subject to one or more account control agreements, in favor of, and in form and substance reasonably satisfactory to, the Administrative Agent that (A) ensures, to the extent necessary under applicable Law, the perfection of a first priority security interest in favor of the Administrative Agent on such Controlled Account, subject only to Permitted Liens, (B) provides that, upon written notice from the Administrative Agent, such bank or financial institution shall comply with instructions originated by the Administrative Agent directing disposition of the funds in such Controlled Account without further consent by the applicable Obligor, and (C) may not be terminated by the applicable Obligor without prior written consent of the Administrative Agent.

(b) **Pledged Collateral**. Within five (5) Business Days following the Closing Date (or such longer period of time as agreed by the Administrative Agent in its sole discretion), the Borrower shall deliver to the Administrative Agent certificates or other instruments representing or evidencing any Pledged Collateral (as defined in the Security Agreement) in existence on the Closing Date, accompanied by appropriate duly executed instruments of transfer or assignment, all in form reasonably satisfactory to the Administrative Agent.

(c) **Insurance Policies.** Within thirty (30) days following the Closing Date (or such longer period of time as agreed by the Administrative Agent in its sole discretion), all such insurance policies required pursuant to each Loan Document shall name the Administrative Agent (for its benefit and the benefit of the Lenders) as loss payee or additional insured, as applicable, and provide that no cancellation of the policies will be made without at least ten (10) days prior written notice to the Administrative Agent and the Administrative Agent shall have received certified copies of such insurance policies (or binders in respect thereof).

(d) **Landlord Consents; Bailee Letters**. Within forty-five (45) days following the Closing Date (or such longer period as the Administrative Agent may agree in its sole discretion), if Collateral having an aggregate fair market value in excess of $500,000 or any substantial portion of an Obligor's books and records or any of its material books and records, is (i) in the possession of any single bailee, warehouseman or consignee, or (ii) located at any single leased real property, such Obligor shall use commercially reasonable efforts to cause such bailee, warehouseman or consignee, or the applicable landlord, as the case may be, to sign and deliver a landlord consent or bailee letter, as applicable.

SECTION 9.
NEGATIVE COVENANTS

Each Obligor covenants and agrees with the Administrative Agent and the Lenders that, until the Commitments have expired or been terminated and all Obligations (other than any inchoate indemnification and expense reimbursement obligations for which no claim has been made), have been paid in full in cash:

9.01 Indebtedness. Such Obligor shall not, and shall not permit any of its Subsidiaries to, create, incur, assume or permit to exist any Indebtedness, whether directly or indirectly, except:

(a) the Obligations;

(b) Indebtedness existing on the date hereof and set forth on **Schedule 9.01** and Permitted Refinancings thereof; provided that, if such Indebtedness is intercompany Indebtedness, such Indebtedness shall be subject to the Intercompany Subordination Agreement;

(c) accounts payable to trade creditors for goods and services and current operating liabilities (not the result of the borrowing of money) incurred in the Ordinary Course of such Obligor's or such Subsidiary's business and paid within ninety (90) days of receipt of invoice, unless contested in good faith by appropriate proceedings and reserved for in accordance with GAAP;

(d) Indebtedness consisting of guarantees resulting from the endorsement of negotiable instruments for collection in the Ordinary Course;

(e) Indebtedness of an Obligor owing to any other Obligor, in each case, subject to the Intercompany Subordination Agreement;

(f) Indebtedness of any Subsidiary that is not an Obligor owing to any other Subsidiary that is not an Obligor;

(g) Indebtedness of (i) any Obligor owing to any Subsidiary that is not an Obligor and (ii) any Subsidiary that is not an Obligor owing to any Obligor, in each case of **clauses (i)** and **(ii)** subject to the Intercompany Subordination Agreement; provided any Indebtedness owing pursuant to this **clause (g)**, together with the amount of Investments pursuant to **Section 9.05(e)(ii)**, shall not exceed (x) prior to the consummation of a Qualified IPO, $1,500,000 in the aggregate per fiscal year or $3,000,000 in the aggregate outstanding at any one time and (y) following the consummation of a Qualified IPO, $2,500,000 in the aggregate per fiscal year;

(h) Guarantees by any Obligor and any Subsidiary of Permitted Indebtedness of any Obligor;

(i) Ordinary Course equipment and software financing and leasing (including Capital Lease Obligations and purchase money Indebtedness); provided that (i) if secured, the collateral therefor consists solely of the assets being financed, the products and proceeds thereof and books and records related thereto, and (ii) the aggregate outstanding principal amount of such Indebtedness does not exceed $1,000,000;

(j) Indebtedness under Permitted Hedging Agreements;

(k) Indebtedness in respect of letters of credit, bank guarantees, bankers' acceptances, warehouse receipts or similar instruments issued or created, or related to obligations or liabilities incurred, in the Ordinary Course in respect of workers compensation claims, health, disability or other employee benefits, leases, commercial contracts, Indebtedness permitted pursuant to **Section 9.01(m)**, property, casualty or liability insurance or self-insurance, subleases or workshare arrangements, or other Indebtedness with respect to reimbursement-type obligations regarding workers compensation claims, provided that the aggregate principal or face amount of Indebtedness incurred pursuant to this **clause (k)** shall not exceed (i) prior to the consummation of a Qualified IPO, $5,000,000 at any time outstanding and (ii) following the consummation of a Qualified IPO, $7,500,000 at any time outstanding;

(l) Indebtedness arising in connection with the financing of insurance premiums in the Ordinary Course;

(m) Indebtedness in respect of (i) performance bonds, bid bonds, appeal bonds, surety bonds, customs bonds, government bonds, performance and completion guarantees and similar obligations arising in the Ordinary Course and (ii) customary indemnification obligations to purchasers in connection with Asset Sales permitted by **Section 9.09**, (x) prior to the consummation of a Qualified IPO, up to an aggregate amount of $250,000 at any one time outstanding and (y) following the consummation of a Qualified IPO, $750,000 at any one time outstanding;

(n) Indebtedness in respect of netting services, overdraft protections, business credit cards, purchasing cards, payment processing, automatic clearinghouse arrangements, arrangements in respect of pooled deposit or sweep accounts, check endorsement guarantees, and otherwise in connection with deposit accounts or cash management services, in each case in the Ordinary Course;

(o) Indebtedness assumed pursuant to any Permitted Acquisition; provided that (i) no such Indebtedness (individually) shall exceed 10% of the total purchase price paid in connection with such Permitted Acquisition, (ii) the aggregate outstanding principal amount of Indebtedness permitted pursuant to this **Section 9.01(o)** shall not exceed $1,000,000 and (iii) no such Indebtedness was created or incurred in connection with, or in contemplation of, such Permitted Acquisition;

(p) other Indebtedness in an aggregate outstanding principal amount not to exceed (x) prior to the consummation of a Qualified IPO, $1,000,000 and (y) following the consummation of a Qualified IPO, $1,500,000;

(q) [reserved]; and

(r) purchase price adjustments, indemnity payments and other Deferred Acquisition Consideration in connection with any Permitted Acquisition, in each case that are permitted pursuant to the definition of "Permitted Acquisition".

9.02 Liens. Such Obligor shall not, and shall not permit any of its Subsidiaries to, create, incur, assume or permit to exist any Lien on any property now owned by it or such Subsidiary, except:

(a) Liens securing the Obligations;

(b) any Lien on any property or asset of such Obligor or any of its Subsidiaries existing on the date hereof and set forth on **Schedule 9.02** and renewals and extensions thereof in connection with Permitted Refinancings of the Indebtedness being secured by such Lien; provided that (i) no such Lien (including any renewal or extension thereof) shall extend to any other property or asset of such Obligor or any of its Subsidiaries (other than improvements and accessions to such property or asset) and (ii) any such Lien shall secure only those obligations which it secures on the date hereof and renewals, extensions and replacements thereof in connection with Permitted Refinancings of the Indebtedness being secured by such Lien that do not increase the outstanding principal amount thereof (other than by an amount equal to unpaid interest and premiums thereon, including tender premium, and any customary underwriting discounts, fees, commissions and expenses associated with such extension, renewal or replacement);

(c) Liens securing Indebtedness permitted under **Section 9.01(i)**; provided that such Liens are restricted solely to the collateral described in **Section 9.01(i)**;

(d) Liens imposed by operation of Law arising in the Ordinary Course, including carriers', warehousemen's, landlords' and mechanics' liens, liens relating to leasehold improvements and other similar Liens arising in the Ordinary Course and, in each case, which (x) do not in the aggregate materially detract from the value of the property subject thereto or materially impair the use thereof in the operations of the business of such Person and (y) where applicable, are being contested in good faith by appropriate proceedings which proceedings have the effect of preventing the forfeiture or sale of the property subject to such Liens and for which adequate reserves have been made if required in accordance with GAAP;

(e) pledges or deposits made in the Ordinary Course in connection with bids, contract leases, appeal bonds, workers' compensation, unemployment insurance or other similar social security legislation;

(f) Liens for Taxes, assessments and other governmental charges not yet due or that are being contested in good faith by appropriate proceedings diligently conducted, for which adequate reserves with respect thereto are being maintained in accordance with GAAP;

(g) servitudes, easements, rights of way, restrictions and other similar encumbrances on real property imposed by any Law and Liens consisting of zoning or building restrictions, easements, licenses, restrictions, in each case, on the use of real property or minor imperfections in title thereto which, in the aggregate, are not material, and which do not in any case materially detract from the value of the property subject thereto or interfere with the ordinary conduct of the business of any of the Obligors or any of their Subsidiaries;

(h) with respect to any real property, (i) such defects or encroachments as might be revealed by an up-to-date survey of such real property, and such other defects in title that (A) do not interfere in any material respect with its ability to conduct its business as currently conducted or to utilize such properties for their intended purposes and (B) could not reasonably be expected to prevent or interfere with the ability of any Obligor or any of its Subsidiaries to conduct any Product Commercialization and Development Activities in any material respect; (ii) the reservations, limitations, provisos and conditions expressed in the original grant, deed or patent of such property by the original owner of such real property pursuant to all applicable Laws; and (iii) rights of expropriation, access or user or any similar right conferred or reserved by or in any Law, which, in the aggregate for **clauses (i)**, **(ii)** and **(iii)**, are not material, and which do not in any case materially detract from the value of the property subject thereto or interfere with the ordinary conduct of the business of any of the Obligors or its Subsidiaries;

(i) (i) Liens that are contractual or common law rights of set-off relating to (A) the establishment of depository relations in the Ordinary Course with banks not given in connection with the issuance of Indebtedness or (B) pooled deposit or sweep accounts of the Borrower and any Subsidiary to permit satisfaction of overdraft or similar obligations incurred in the Ordinary Course, (ii) other Liens securing cash management obligations with depositary institutions (that do not constitute Indebtedness) in the Ordinary Course, and (iii) Liens encumbering reasonable customary initial deposits and margin deposits and similar Liens attaching to commodity trading accounts or other brokerage accounts, in each case, incurred in the Ordinary Course and not for speculative purposes;

(j) Liens securing Indebtedness permitted under **Section 9.01(o)**; provided that (i) such Lien is not created in contemplation of or in connection with such Permitted Acquisition pursuant to which such Indebtedness was assumed, (ii) such Lien shall not apply to any other property or assets of the Borrower or any Subsidiary other than the assets subject to such Liens immediately prior to the consummation of such Permitted Acquisition and (iii) such Lien shall secure only those obligations that it secured immediately prior to the consummation of such Permitted Acquisition and Permitted Refinancings thereof;

(k) Liens securing Indebtedness permitted under **Sections 9.01(k)**, **9.01(k)**, **9.01(l)**, **9.01(m)**, and **9.01(n)**;

(l) any judgment Lien or Lien arising from decrees or attachments, in each case, not constituting an Event of Default;

(m) Liens arising from precautionary UCC financing statement filings regarding operating leases of personal property entered into in the Ordinary Course in an Arm's Length Transaction;

(n) other Liens that do not secure obligations in respect of Indebtedness for borrowed money in an aggregate outstanding amount not to exceed (x) prior to the consummation of a Qualified IPO, $500,000 and (y) following the consummation of a Qualified IPO, $1,500,000;

(o) Liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods and incurred in the ordinary course of business;

(p) Permitted Licenses and solely with respect to assets owned by third parties and licensed or leased to such Obligor or any of its Subsidiaries, retained interests or title of licensors or lessors that do not conflict with such Obligor's or any such Subsidiaries' use thereof;

(q) Liens on cash and cash equivalents securing obligations under Permitted Hedging Agreements;

(r) (i) Liens to secure payment of workers' compensation, employment insurance, old age pensions, social security and other like obligations incurred in the Ordinary Course (other than Liens imposed by ERISA) and (ii) deposits in respect of letters of credit, bank guarantees or similar instruments issued for the account of any Obligor or any Subsidiary in the Ordinary Course supporting obligations of the type set forth in **clause (i)** above or **Section 9.01(k)**;

(s) Liens of a collection bank arising under Section 4-210 of the UCC on items in the course of collection;

(t) Liens of sellers of goods to the Borrower or any of its Subsidiaries arising under Article 2 of the UCC or similar provisions of applicable law in the Ordinary Course, covering only the goods sold and securing only the unpaid purchase price for such goods and related expenses;

(u) to the extent constituting a Lien, customary cash escrow arrangements securing indemnification obligations associated with a Permitted Acquisition; and

(v) any Lien arising under conditional sale, title retention, consignment or similar arrangements for the sale of goods in the Ordinary Course; provided that such Lien attaches only to the goods subject to such sale, title retention, consignment or similar arrangement;

provided that no Lien otherwise permitted under any of the foregoing **clauses (d)**, **(e)**, **(m)** and **(o)** of this **Section 9.02** shall apply to any Material Intellectual Property.

9.03 Fundamental Changes and Acquisitions. Such Obligor shall not, and shall not permit any of its Subsidiaries to, (i) enter into any transaction of merger, amalgamation or consolidation, (ii) liquidate, wind up or dissolve itself (or suffer any liquidation or dissolution), (iii) sell or issue any of its Disqualified Equity Interests or (iv) other than Permitted Acquisitions and any Acquisition permitted by **Section 9.05**, make any Acquisition or otherwise acquire any business or substantially all the property from, or Equity Interests of, or be a party to any Acquisition of, any Person, except:

(a) the merger, amalgamation or consolidation or liquidation of any (i) Subsidiary with or into any Obligor; provided that with respect to any such transaction involving (x) the Borrower, the Borrower must be the surviving or successor entity of such transaction or (y) any other Obligor, an Obligor must be the surviving or successor entity of such transaction or the surviving Person shall concurrently therewith become an Obligor or (ii) any Subsidiary that is not a Subsidiary Guarantor with or into any other Subsidiary that is not a Subsidiary Guarantor;

(b) the sale, lease, transfer or other disposition by (i) any Subsidiary of any or all of its property (upon voluntary liquidation or otherwise) to any Obligor or to any entity that concurrently therewith shall become an Obligor or (ii) any Subsidiary that is not an Obligor of any or all of its property (upon voluntary liquidation or otherwise) to any other Subsidiary that is not an Obligor;

(c) the sale, transfer or other disposition of the Equity Interests of (i) any Subsidiary to any Obligor or, (ii) any Subsidiary that is not an Obligor to other Subsidiary that is not an Obligor;

(d) mergers, amalgamations or consolidations of any Subsidiary to effectuate any Asset Sales permitted under **Section 9.09**; provided that such merger, amalgamation or consolidation does not include the Borrower;

(e) in connection with any Permitted Acquisition or other Investment permitted under **Section 9.05**, any Obligor or any of its Subsidiaries may merge into or consolidate with any other Person or permit any other Person to merge into or consolidate with it, so long as (i) the Person surviving such merger with any Subsidiary shall be a direct or indirect wholly-owned Subsidiary of the Borrower, (ii) in the case of any such merger to which the Borrower is a party, the Borrower is the surviving Person, and (iii) in the case of any such merger to which a Subsidiary Guarantor is a party, the surviving Person is such Subsidiary Guarantor or concurrently therewith becomes a Subsidiary Guarantor; and

(f) any Subsidiary may dissolve, liquidate or wind up its affairs at any time, provided, that, such dissolution, liquidation or winding up could not reasonably be expected to have a Material Adverse Effect and all of such Subsidiary's assets and business are transferred to an Obligor or solely in the case of a Subsidiary that is not an Obligor, another Subsidiary that is not an Obligor prior to or concurrently with such dissolution, liquidation or winding up.

9.04 Lines of Business. Such Obligor shall not, and shall not permit any of its Subsidiaries to, engage in any line of business other than the business engaged in on the date hereof by such Persons or a business reasonably related, incidental or complementary thereto or reasonable expansions or extensions thereof.

9.05 Investments. Such Obligor shall not, and shall not permit any of its Subsidiaries to, make, directly or indirectly, or permit to remain outstanding any Investments except:

(a) Investments (but without giving effect to the cash return provision contained in the definition thereof) outstanding on the date hereof and identified in **Schedule 9.05(a)** and any renewals, amendments and replacements thereof that do not increase the amount thereof of any such Investment, net of cash returns thereon, or require that any additional Investment be made (unless otherwise permitted hereunder);

(b) deposit accounts with banks (or similar deposit-taking institutions) and securities accounts maintained by the Obligors and their respective Subsidiaries, which in the case of the Obligors shall, after the Account Control Agreement Completion Date, be Controlled Accounts (unless Excluded Accounts);

(c) extensions of credit in the nature of accounts receivable or notes receivable arising from the sales of goods or services in the Ordinary Course in an Arm's Length Transaction;

(d) Investments in cash and Permitted Cash Equivalent Investments (including Investments in assets that were Permitted Cash Equivalent Investments when such Investments were made), which in the case of the Obligors shall, after the Account Control Agreement Completion Date, be maintained in Controlled Accounts (unless maintained in Excluded Accounts);

(e) Investments (i) by an Obligor in another Obligor, (ii) by a Subsidiary that is not an Obligor in any other Subsidiary that is not an Obligor, and (iii) by an Obligor in any Subsidiary that is not an Obligor; provided that the total outstanding amount of Investments pursuant to this **subclause (iii)**, when taken together with the principal amount of Indebtedness outstanding pursuant to **Section 9.01(g)** shall not exceed (x) prior to the consummation of a Qualified IPO, $1,500,000 in the aggregate per fiscal year or $3,000,000 in the aggregate outstanding at any one time and (y) following the consummation of a Qualified IPO, $2,500,000 in the aggregate per fiscal year;

(f) Permitted Hedging Agreements;

(g) Investments consisting of prepaid expenses, deposits under commercial contracts for the purchase of assets, negotiable instruments held for collection or deposit, security deposits with utilities, landlords and other like Persons and deposits in connection with workers' compensation and similar deposits, in each case, made in the Ordinary Course, and other deposits and cash collateral constituting Permitted Liens;

(h) employee, officer and director loans, travel advances and guarantees in accordance with the Borrower's usual and customary practices with respect thereto (if permitted by applicable Laws) and non-cash loans to employees, officers, or directors relating to the purchase of Equity Interests of the Borrower pursuant to employee stock purchase plans or agreements, which in the aggregate shall not exceed $250,000 outstanding;

(i) Investments received in connection with any Insolvency Proceedings in respect of any customers, suppliers or clients or in settlement of delinquent obligations of, and other disputes with, customers, suppliers or clients;

(j) other Investments in an aggregate outstanding amount not to exceed $1,000,000 in the aggregate;

(k) Permitted Acquisitions, earnest money deposits in connection with Permitted Acquisitions, and Investments acquired as a result of a Permitted Acquisition to the extent that such Investments were not made in contemplation of or in connection with such Permitted Acquisition and were in existence prior to the date of such Permitted Acquisition;

(l) Investments in any MSC Subsidiary, so long as no Event of Default has occurred and is continuing at the time of such Investment or would result immediately from such Investment, provided that the MSC Investment Conditions are satisfied;

(m) Investments consisting of the endorsement of negotiable instruments for deposit or collection or similar transactions in the Ordinary Course;

(n) [reserved]

(o) the increase in value of any Investment otherwise permitted pursuant to this **Section 9.05**;

(p) Investments of any Person in existence at the time such Person becomes a Subsidiary; provided such Investment was not made in connection with or anticipation of such Person becoming a Subsidiary and any modification, replacement, renewal or extension thereof;

(q) Investments permitted under **Section 9.03**;

(r) Investments consisting of the non-cash portion of the sales consideration received by the Borrower or any of its Subsidiaries in connection with any Asset Sale permitted under **Section 9.09**;

(s) to the extent constituting Investments, Guarantees of Indebtedness, which Guarantees are permitted under **Section 9.01**;

(t) Investments consisting of Permitted Liens;

(u) Investments to the extent that payment for such Investment is made solely with Equity Interests (other than Disqualified Equity Interests) of the Borrower;

(v) Investments with respect to cash management made in accordance with the Borrower's investment policy that was provided to the Administrative Agent prior to the Closing Date, or as modified to the extent such modification has been approved by the Administrative Agent;

(w) [reserved]; and

(x) cash investments in joint ventures or strategic alliances in the Ordinary Course for the development of technology or the providing of technical support as permitted hereunder, in each case, with strategic pharmaceutical partners, provided, that all such Investments pursuant to this **clause (x)** shall not exceed $500,000 in the aggregate.

Notwithstanding anything in this Agreement to the contrary, (i) the Obligors shall not, and shall not permit any of their Subsidiaries to (x) directly or indirectly transfer, by means of contribution, sale, assignment, lease or sublease, license or sublicense, or other disposition of any kind (including as an Investment, Restricted Payment or Asset Sale), any Material Intellectual Property or Material Agreement other than pursuant to Permitted Licenses or (y) permit any Person other than an Obligor to license or own any interest in any Material Intellectual Property or Material Agreement other than pursuant to Permitted Licenses and (ii) the Obligors shall not, and shall not permit any of their Subsidiaries to contribute any Material Intellectual Property or Material Agreement as an Investment or distribute any Material Intellectual Property or Material Agreement as a Restricted Payment to any Subsidiary other than an Obligor (other than pursuant to Permitted Licenses).

9.06 Restricted Payments. Such Obligor shall not, and shall not permit any of its Subsidiaries to, declare, pay or make, or agree to pay or make, directly or indirectly, any Restricted Payment; provided that the following Restricted Payments shall be permitted so long as no Default or Event of Default has occurred and is continuing or could reasonably be expected to occur or result from such Restricted Payment:

(a) dividends with respect to the Borrower's Equity Interests payable solely in shares of its Qualified Equity Interests (or the equivalent thereof);

(b) (i) each Subsidiary that is an Obligor may make Restricted Payments to any other Obligor, and (ii) each Subsidiary that is not an Obligor may make Restricted Payments to an Obligor and to another Subsidiary that is not an Obligor and pro rata Restricted Payments to minority stockholders of any such Subsidiary;

(c) any purchase, redemption, retirement or other acquisition of Equity Interests of the Borrower held by consultants, officers, directors and employees or former consultants, officers, directors or employees (or their transferees, estates, or beneficiaries under their estates) of Borrower and its Subsidiaries not to exceed $250,000 in the aggregate (it being agreed that, to the extent constituting an Investment permitted by **Section 9.05(h)**, the amount of any Indebtedness of such Persons owing to the Borrower or any Subsidiary forgiven in connection with such Restricted Payment shall be excluded from any determination pursuant to this **clause (c)**); provided that the portion of such basket that is not used by the Borrower or its Subsidiaries in any fiscal year shall be carried-forward and shall increase such basket for succeeding fiscal years;

(d) cashless repurchases of Equity Interests deemed to occur upon exercises of options and warrants or the settlement or vesting of other equity awards if such Equity Interests represent a portion of the exercise price of such options or warrants, or similar equity incentive awards;

(e) cash payments made by the Borrower to redeem, purchase, repurchase or retire its obligations under options, warrants and other convertible securities issued by it in the nature of customary cash payments in lieu of fractional shares in accordance with the terms thereof;

(f) the Borrower may acquire (or withhold) its Equity Interests pursuant to any employee stock option or similar plan to pay withholding taxes for which the Borrower is liable in respect of a current or former officer, director, employee, member of management or consultant upon such grant or award (or upon vesting or exercise thereof) and the Borrower may make deemed repurchases in connection with the exercise of stock options;

(g) [reserved];

(h) any payment of interest, principal or fees in respect of any Indebtedness owed by any Obligor or any of its Subsidiaries to any holder of any Equity Interests of any Obligor or any of its Subsidiaries, in each case to the extent permitted under **Section 9.07**; and

(i) so long as no Event of Default has occurred and is continuing (or could reasonably be expected to occur after giving effect to such Restricted Payment), other Restricted Payments in an aggregate amount not to exceed $500,000 in any fiscal year.

9.07 Payments of Indebtedness. Such Obligor shall not, and shall not permit, directly or indirectly, any of its Subsidiaries to, make any payments in respect of any Indebtedness other than (i) payments of the Obligations, (ii) scheduled payments of other Indebtedness to the extent permitted pursuant to the terms, if any, of any applicable subordination or intercreditor agreement in respect of the Obligations, (iii) intercompany indebtedness permitted under **Section 9.01**, (iv) Indebtedness permitted to be incurred under **Sections 9.01(b)**, **(i)**, **(j)**, **(k)**, **(l)**, **(m)**, **(n)**, **(o)** and **(r)** (v) Indebtedness permitted to be incurred under **Section 9.01(p)**; provided that any such payments shall only be made or settled (x) to the extent such payments constitute interest payments, or (y) in Equity Interests and cash in lieu of fractional shares (as well as cash to pay any accrued interest on the date of any payment made in Equity Interests) and (vi) Permitted Refinancings permitted hereunder.

9.08 Change in Fiscal Year. Such Obligor shall not, and shall not permit any of its Subsidiaries to, change the last day of its fiscal year from that in effect on the date hereof without the prior written consent of Administrative Agent, except to change the fiscal year of a Subsidiary acquired in connection with an Acquisition to conform its fiscal year to that of the Borrower.

9.09 Sales of Assets, Etc. Such Obligor shall not, and shall not permit any of its Subsidiaries to, directly or indirectly, sell, lease or sublease (as lessor or sub-lessor), sale and leaseback, assign, convey, exclusively license (including in terms of geography or field of use), transfer, or otherwise dispose of any of its businesses, assets or property of any kind, whether real, personal, or mixed and whether tangible or intangible, whether now owned or hereafter acquired (including accounts receivable and Equity Interests of Subsidiaries), or forgive, release or compromise any amount owed to such Obligor or Subsidiary, in each case, in one transaction or series of transactions (any thereof, an "***Asset Sale***"), except:

(a) sales, transfers and other dispositions of receivables in connection with the compromise, settlement or collection thereof in the Ordinary Course;

(b) sales of inventory, including to end users (through wholesalers or other typical sales channels) or to distributors, in the Ordinary Course in an Arm's Length Transaction;

(c) so long as no Event of Default has occurred and is continuing, the forgiveness, release or compromise of any amount owed to any Obligor or Subsidiary in the Ordinary Course;

(d) transfers of assets, rights or property (i) among Obligors or (ii) from any Subsidiary that is not an Obligor to an Obligor or another Subsidiary that is not an Obligor;

(e) dispositions (including by way of abandonment or cancellation) of any equipment and other tangible property that is obsolete or worn out or no longer used or useful in the business disposed of in the Ordinary Course in an Arm's Length Transaction;

(f) dispositions resulting from Casualty Events (without giving effect to the Dollar exception set forth in the definition thereof);

(g) the unwinding of any Hedging Agreement permitted by **Section 9.05** pursuant to its terms;

(h) Asset Sales identified in **Schedule 9.09**;

(i) other Asset Sales (other than with respect to Material Intellectual Property) not in excess of $250,000 in the aggregate in any fiscal year, in which any Obligor or any Subsidiary will receive cash proceeds in an amount equal to no less than seventy-five percent (75%) of the total consideration (fixed or contingent) paid or payable to such Obligor or such Subsidiary, but only so long as, unless otherwise waived by Administrative Agent in its sole discretion, the Net Cash Proceeds of such Asset Sale are utilized to repay or prepay, in whole or in part, the Obligations under and in accordance with **Section 3.03(b)(i)**;

(j) dispositions in the Ordinary Course consisting of the abandonment of Intellectual Property which, in the reasonable good faith determination of Borrower, are not material to the conduct of the business of Borrower or any of its Subsidiaries as currently conducted or anticipated to be conducted;

(k) Permitted Licenses;

(l) dispositions of cash and Permitted Cash Equivalents Investment in the Ordinary Course or otherwise in transactions permitted hereunder; and

(m) to the extent constituting an Asset Sale, any Permitted Liens.

9.10 Transactions with Affiliates. Such Obligor shall not, and shall not permit any of its Subsidiaries to, directly or indirectly, enter into or permit to exist any transaction to sell, lease, license or otherwise transfer any assets to, or purchase, lease, license or otherwise acquire any assets from, or otherwise engage in any other transactions with, any of its Affiliates, unless such arrangement or transaction (i) is an Arm's Length Transaction, (ii) is of the kind which would be entered into by a prudent Person in the position of the Borrower with another Person that is not an Affiliate, (iii) is between or among (x) one or more Obligors, on the one hand, and, on the other hand, one or more Obligors, (y) one or more Subsidiaries of the Obligors that are not Obligors, on the one hand, and, on the other hand, one or more Subsidiaries of the Obligors that are not Obligors and (z) one or more Obligors or their Subsidiaries that are not Obligors, on the one hand, and, on the other hand, one or more Obligors or their Subsidiaries that are Obligors (provided that, with respect to **clause (z)** only, the terms thereof are no less favorable than those that would be obtained in a comparable arm's-length transaction with a non-affiliated Person), (iv) is permitted under **Sections 9.01**, **9.03**. **9.05**, **9.06**, **9.07** or **9.09**, in each case, to the extent contemplated to be a transaction among Affiliates, (v) constitutes customary compensation (including performance, discretionary, retention, relocation, transaction and other special bonuses and payment, severance payments and payments pursuant to employment agreements), other benefits (including retirement, health, stock option and other benefit plans, life insurance, disability insurance and other equity (or equity-linked) awards) and indemnification of, and other employment arrangements with, directors, officers, and employees of any Obligor or its Subsidiaries in the Ordinary Course, (vi) constitutes payment of customary fees, reimbursement of expenses, and payment of indemnification to officers and directors and customary payment of insurance premiums on behalf of officers and directors by the Obligors or their Subsidiaries, in each case, in the Ordinary Course, (vii) are the transactions set forth on **Schedule 9.10** or (viii) is a transaction (with any series of related transactions being aggregated for the purposes of this **clause (viii)**) including consideration of less than $50,000.

9.11 Restrictive Agreements. Such Obligor shall not, and shall not permit any of its Subsidiaries to, directly or indirectly, enter into, incur or permit to exist any Restrictive Agreement other than (i) restrictions and conditions imposed by applicable Laws or by the Loan Documents, (ii) Restrictive Agreements listed on **Schedule 7.14**, (iii) limitations associated with Permitted Liens or any document or instrument governing any Permitted Lien, (iv) any documentation governing Indebtedness referenced in **clauses (k)** and **(o)** of **Section 9.01** (or any Permitted Refinancing thereof), (v) customary provisions in leases, Permitted Licenses and other Contracts restricting the assignment thereof or restricting the assignment, pledge, transfer or sublease or sublicense of the property leased, licensed or otherwise the subject thereof; (vi) any restrictions or conditions set forth in any agreement in effect at any time any Person becomes a Subsidiary (but not any modification or amendment expanding the scope of any such restriction or condition); provided that such agreement was not entered into in contemplation of such Person becoming a Subsidiary; (vii) restrictions or conditions in any Indebtedness permitted pursuant to **Section 9.01** that is incurred or assumed by Subsidiaries that are not Obligors to the extent such restrictions or conditions are no more restrictive in any material respect than the restrictions and conditions in the Loan Documents; (viii) restrictions or conditions imposed by any agreement relating to purchase money Indebtedness and other secured Indebtedness or to leases and licenses permitted by this Agreement if such restrictions or conditions apply only to the property or assets securing such Indebtedness or the property leased or licensed; (ix) customary provisions in contracts for the disposition of any assets; provided that the restrictions in any such contract shall apply only to the assets or Subsidiary that is to be disposed of and such disposition is permitted hereunder; (x) customary provisions regarding confidentiality or restricting assignment, pledges or transfer of any Permitted License or any other agreement entered into in the Ordinary Course; (xi) [reserved]; and (xii) restrictions or encumbrances in any agreement in effect at the time any Person becomes a Subsidiary, so long as (x) such agreement was not entered into in contemplation of such Person becoming a Subsidiary and (y) such restrictions or encumbrances do not extend beyond such Subsidiary or its assets.

9.12 Modifications and Terminations of Material Agreements and Organic Documents. Such Obligor shall not, and shall not permit any of its Subsidiaries to:

(a) waive, amend, terminate, replace or otherwise modify any term or provision of any Organic Document in any way or manner materially adverse to the interests of the Administrative Agent and the Lenders.

(b) waive, amend, replace or otherwise modify any term or provision of any Material Agreement in a manner materially adverse to the rights and remedies the Administrative Agent and the Lenders hereunder; or

(c) (x) take or omit to take any action that results in the termination of, or permits any other Person to terminate, any Material Agreement or any rights in or to Material Intellectual Property or (y) take any action that permits any Material Agreement or any rights in or to Material Intellectual Property to be terminated by any counterparty thereto prior to its stated date of expiration.

9.13 Outbound Licenses. No Obligor shall, nor shall it permit any of its Subsidiaries to, enter into or become or remain bound by any outbound license, covenant not to sue or other similar grant of rights under Material Intellectual Property, except for pursuant to Permitted Licenses.

9.14 Sales and Leasebacks. Except as disclosed on **Schedule 9.14** or otherwise consented to in writing by the Administrative Agent, such Obligor shall not, and shall not permit any of its Subsidiaries to, become liable, directly or indirectly, with respect to any lease, whether an operating lease or a Capital Lease Obligation, of any property (whether real, personal, or mixed), whether now owned or hereafter acquired, (i) which such Person has sold or transferred or is to sell or transfer to any other Person and (ii) which such Obligor or Subsidiary intends to use for substantially the same purposes as property which has been or is to be sold or transferred.

9.15 Hazardous Material. Such Obligor shall not, and shall not permit any of its Subsidiaries to, use, generate, manufacture, install, treat, release, store or dispose of any Hazardous Material, except as would not reasonably be expected to result in a Material Environmental Liability.

9.16 Accounting Changes. Such Obligor shall not, and shall not permit any of its Subsidiaries to, make any significant change in accounting treatment or reporting practices, except as required or permitted by GAAP.

9.17 Compliance with ERISA. No Obligor or any of its Subsidiaries or any ERISA Affiliate shall cause or suffer to exist (i) any event that could result in the imposition of a Lien with respect to any Title IV Plan or (ii) any other ERISA Event that, in either case, could, in the aggregate, reasonably be expected to result in a Material Adverse Effect.

9.18 Sanctions; Anti-Corruption Use of Proceeds.

(a) No Obligor nor any of its Subsidiaries or their respective agents shall (i) conduct any business or engage in any transaction or dealing with any Sanctioned Person in violation of any applicable Sanctions, including making or receiving any contribution of funds, goods or services to or for the benefit of any Sanctioned Person; (ii) deal in, or otherwise engage in any transaction relating to, any property or interests in property blocked pursuant to any applicable Sanctions; or (iii) engage in or conspire to engage in any transaction that evades or avoids, or has the purpose of evading or avoiding, or attempts to violate, any of the prohibitions set forth in any applicable Sanctions, the Patriot Act or any other applicable Anti-Terrorism Law.

(b) The Borrower shall not, directly or, to the knowledge of the Borrower, indirectly, use the proceeds of the Loans, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person, (i) in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any Person in violation of any applicable anti-corruption Law, or (ii) (A) for the purpose of funding any activities or business of or with any applicable Sanctioned Person or any Designated Jurisdiction in violation of any applicable Sanctions or (B) in any other manner that would result in a violation of Sanctions applicable to any party to this Agreement.

SECTION 10.
FINANCIAL COVENANTS

10.01 Minimum Liquidity. Beginning on September 30, 2023, the Obligors shall at all times maintain the Minimum Liquidity Amount in cash and/or Permitted Cash Equivalent Investments in one or more Controlled Accounts that is free and clear of all Liens, other than Liens granted under the Loan Documents in favor of the Administrative Agent and Liens permitted under **Section 9.02(d)**, **9.02(f)**, **9.02(i)**, **9.02(k)** (solely with respect to Indebtedness permitted under **Section 9.01(n)**), **9.02(l)** or **9.02(s)**; provided that, the foregoing covenant shall not apply during any period of time after the consummation of a Qualified IPO in which the Borrower's Market Capitalization is [***].

10.02 Financing Milestone Covenant. Borrower shall have provided evidence satisfactory to the Administrative Agent that (a) the Borrower received Qualified Financing Proceeds of at least $40,000,000 during the period commencing on the Closing Date and ending on or prior to February 15, 2024, with at least $10,000,000 of such Qualified Financing Proceeds being received by the Borrower on or prior to December 15, 2023, and (b) the Borrower either (i) received Qualified Financing Proceeds of at least $100,000,000 (inclusive of such Qualified Financing Proceeds in **clause (a)** above) or (ii) consummated a Qualified IPO, in each case, during the period commencing as of the Closing Date and prior to June 30, 2024.

SECTION 11.
EVENTS OF DEFAULT

11.01 Events of Default. Each of the following events shall constitute an "***Event of Default***":

(a) **Principal Payment Default**. The Obligors shall fail to pay any principal of the Loan, when and as the same shall become due and payable, whether at the due date thereof, at a date fixed for prepayment thereof or otherwise.

(b) **Other Payment Defaults**. The Obligors shall fail to pay interest or any other Obligation (other than an amount referred to in **Section 11.01(a)**) when and as the same shall become due and payable, and such failure shall continue unremedied for a period of three (3) Business Days.

(c) **Representations and Warranties**. Any representation or warranty made or deemed made by or on behalf of any Obligor or any of its Subsidiaries in or in connection with this Agreement or any other Loan Document or any amendment or modification hereof or thereof, or in any report, certificate, financial statement or other document furnished pursuant to or in connection with this Agreement or any other Loan Document or any amendment or modification hereof or thereof, shall (i) have been incorrect when made or deemed made to the extent that such representation or warranty contains any materiality or Material Adverse Effect qualifier; or (ii) have been incorrect in any material respect when made or deemed made to the extent that such representation or warranty does not otherwise contain any materiality or Material Adverse Effect qualifier.

(d) **Certain Covenants**. Any Obligor shall fail to observe or perform any covenant, condition or agreement contained in (i) **Section 8.01(a)**, **(b)**, **(c)** or **(d)** and such failure shall continue unremedied for a period of five (5) Business Days or (ii) **Section 8.02**, **Section 8.03** (solely as to the Borrower), **Section 8.11**, **Section 8.12**, **Section 8.14**, **Section 8.16**, **Section 8.18**, **Section 9** or **Section 10**.

(e) **Other Covenants**. Any Obligor shall fail to observe or perform any covenant, condition or agreement contained in this Agreement (other than those specified in **Section 11.01(a)**, **(b)** or **(d)**) or any other Loan Document, and, in the case of any failure that is capable of cure, such failure shall continue unremedied for a period of twenty (20) or more days after the earlier to occur of the date on which a (i) Responsible Officer of any Obligor becomes aware of such failure or (ii) written notice thereof shall have been given to any Obligor by the Administrative Agent or any Lender.

(f) **Material Adverse Effect**. A circumstance has occurred that could reasonably be expected to have a Material Adverse Effect.

(g) **Defaults on Other Indebtedness**. The occurrence of any material breach of, or "event of default" or similar event under any Contract governing any Material Indebtedness shall occur and the effect of which breach or "event of default" or similar event is to (x) cause such Material Indebtedness becoming due prior to its scheduled maturity or (y) enable or permit (with or without the giving of notice, the lapse of time or both) the holder or holders of such Material Indebtedness or any trustee or agent on its or their behalf to cause such Material Indebtedness to become due, or to require the prepayment, repurchase, redemption or defeasance thereof, prior to its scheduled maturity; provided that this **Section 11.01(g)** shall not apply to (x) secured Indebtedness that becomes due as a result of the voluntary sale or transfer of the property or assets securing such Material Indebtedness, (y) any conversion of any convertible Indebtedness or satisfaction of any condition giving rise to or permitting a conversion of any convertible Indebtedness; provided that the Borrower has the right to settle any such Indebtedness into Equity Interests of the Borrower (and nominal cash payments in respect of fractional shares and cash payments in respect of accrued and unpaid interest) in accordance with the terms or conditions thereof and (z) with respect to any Material Indebtedness consisting of Hedging Agreements, termination events or equivalent events pursuant to the terms of such Hedging Agreements and not as a result of any default thereunder by any Obligor or any Subsidiary.

(h) **Insolvency, Bankruptcy, Etc.**

(i) Any Obligor or any of its Material Subsidiaries becomes insolvent, or generally does not or becomes unable to pay its debts or meet its liabilities as the same become due, or admits in writing its inability to pay its debts generally, or declares any general moratorium on its indebtedness, or proposes a compromise or arrangement or deed of company arrangement between it and any class of its creditors.

(ii) Any Obligor or any of its Material Subsidiaries commits an act of bankruptcy or makes an assignment of its property for the general benefit of its creditors or makes a proposal (or files a notice of its intention to do so).

(iii) Any Obligor or any of its Material Subsidiaries voluntarily institutes any proceeding seeking to adjudicate it an insolvent, or seeking liquidation, dissolution, winding-up, reorganization, examinership, compromise, arrangement, adjustment, protection, moratorium, relief, stay of proceedings of creditors generally (or any class of creditors), or composition of it or its debts or any other relief, under any Law, whether U.S. or non-U.S., now or hereafter in effect relating to bankruptcy, winding-up, insolvency, reorganization, examinership, receivership, plans of arrangement or relief or protection of debtors or at common law or in equity, or files an answer admitting the material allegations of a petition filed against it in any such proceeding.

(iv) Any Obligor or any of its Material Subsidiaries applies for the appointment of, or the taking of possession by, a receiver, interim receiver, receiver/manager, sequestrator, conservator, custodian, administrator, examiner, trustee, liquidator, voluntary administrator, receiver and manager or other similar official for it or any substantial part of its property.

(v) Any Obligor or any of its Material Subsidiaries takes any action, corporate or otherwise, to approve, effect, consent to or authorize any of the actions described in this **Section 11.01(h)**, or otherwise acts in furtherance thereof or fails to act in a timely and appropriate manner in defense thereof.

(vi) Any involuntary petition is filed, involuntary application made or other proceeding instituted against or in respect of any Obligor or any of its Material Subsidiaries:

(A) seeking to adjudicate it as insolvent;

(B) seeking a receiving order against it;

(C) seeking liquidation, dissolution, winding-up, reorganization, compromise, arrangement, adjustment, protection, moratorium, relief, examinership stay of proceedings of creditors generally (or any class of creditors), deed of company arrangement or composition of it or its debts or any other relief under any Law, whether U.S. or non-U.S., now or hereafter in effect relating to bankruptcy, winding-up, insolvency, reorganization, receivership, plans of arrangement or relief or protection of debtors or at common law or in equity; or

(D) seeking the entry of an order for relief or the appointment of, or the taking of possession by, a receiver, interim receiver, receiver/manager, examiner sequestrator, conservator, custodian, administrator, trustee, liquidator, voluntary administrator, receiver and manager or other similar official for it or any substantial part of its property, and such petition, application or proceeding continues undismissed, or unstayed and in effect, for a period of forty-five (45) days after the institution thereof; provided that if an order, decree or judgment is granted or entered (whether or not entered or subject to appeal) against such Obligor or such Subsidiary thereunder in the interim, such grace period shall cease to apply; provided, further, that if such Obligor or Material Subsidiary files an answer admitting the material allegations of a petition filed against it in any such proceeding, such grace period shall cease to apply.

(vii) Any other event occurs which, under the Laws of any applicable jurisdiction, has an effect equivalent to any of the events referred to in this **Section 11.01(h)**.

(i) **Judgments**. One or more final judgments for the payment of money in an aggregate amount in excess of $1,000,000 (to the extent not fully covered (other than to the extent of customary deductibles) by insurance pursuant to which the insurer has not denied coverage) shall be rendered against any Obligor or any of its Subsidiaries or any combination thereof and the same shall remain undischarged for a period of forty-five (45) calendar days during which execution shall not be effectively stayed or bonded pending appeal, or any action shall be legally taken by a judgment creditor to attach or levy upon any assets of any Obligor to enforce any such judgment.

(j) **ERISA**. An ERISA Event or a Foreign Plan Event shall have occurred that when taken together with all other ERISA Events that have occurred, could reasonably be expected to result in a Material Adverse Effect.

(k) **Change of Control**. A Change of Control shall have occurred.

(l) **Regulatory Matters, Etc.** If any of the following occurs: (i) the FDA or any other Regulatory Authority initiates enforcement action against, or issues a warning letter with respect to, any Obligor or, to the knowledge of the Obligors, any Material Product or any manufacturing facilities related to the foregoing that (x) causes any Obligor to discontinue or withdraw, or could reasonably be expected to cause any Obligor to discontinue or withdraw, marketing or sales of any Material Product, or causes a material delay in the manufacture or sale of any Material Product, and (y) could reasonably be expected to result in a Material Adverse Effect, or (ii) a recall of any Material Product that could reasonably be expected to result in a Material Adverse Effect.

(m) **Warrants**. The Borrower breaches any of its material obligations under any Warrant and such failure shall continue unremedied for a period of five (5) or more Business Days.

(n) **Impairment of Security, Etc.** Subject in all respects to any applicable post-closing periods and certain other time periods and exceptions under the Loan Documents for any Obligor or Subsidiary to take perfection actions, if any of the following events occurs: (i) any Lien created by any of the Security Documents shall at any time (except as expressly permitted by the terms of any Loan Document) not constitute a valid and perfected Lien on the applicable Collateral in favor of the Secured Parties, free and clear of all other Liens (other than Permitted Liens) except due to the action or inaction of the Administrative Agent, (ii) except for expiration in accordance with its terms, any of the Security Documents or any Guarantee of any of the Obligations (including that contained in **Section 13**) shall for whatever reason cease to be in full force and effect, (iii) any Obligor shall, directly or indirectly, contest in any manner such effectiveness, validity, binding nature or enforceability of any such Lien or any Loan Document or (iv) any injunction, whether temporary or permanent, shall be rendered against any Obligor that prevents the Obligors from selling or manufacturing any Material Product or its commercially available successors in the United States for more than forty-five (45) calendar days.

11.02 Remedies.

(a) **Defaults Other Than Bankruptcy Defaults**. Upon the occurrence and during the continuance of any Event of Default (other than an Event of Default described in **Section 11.01(h)**), the Administrative Agent may, by notice to the Borrower, declare the Loans then outstanding to be due and payable in whole (or in part, in which case any principal not so declared to be due and payable may thereafter be declared to be due and payable), and thereupon the principal of the Loans so declared to be due and payable, together with accrued interest thereon and all fees and other Obligations, including any applicable Yield Protection Premium and the Exit Fee, shall become due and payable immediately (in the case of the Loans, at the Prepayment Price therefor), without presentment, demand, protest or other notice of any kind, all of which are hereby waived by each Obligor.

(b) **Bankruptcy Defaults**. In case of an Event of Default described in **Section 11.01(h)**, the principal of the Loans then outstanding, together with accrued interest thereon and all fees and other Obligations, including any applicable Yield Protection Premium and the Exit Fee, shall automatically become due and payable immediately (in the case of the Loans, at the Prepayment Price therefor), without presentment, demand, protest or other notice of any kind, all of which are hereby waived by each Obligor.

11.03 Additional Remedies. If an Event of Default has occurred and is continuing, if any Obligor shall be in default under a Material Agreement, the Administrative Agent shall have the right (but not the obligation) to cause the default or defaults under such Material Agreement to be remedied (including by paying any unpaid amount thereunder) and otherwise exercise any and all rights of such Obligor, as the case may be, thereunder, as may be necessary to prevent or cure any default. Without limiting the foregoing, upon any such default, each Obligor shall promptly execute, acknowledge and deliver to the Administrative Agent such instruments as may reasonably be required of such Obligor to permit the Administrative Agent to cure any default under the applicable Material Agreement or permit the Administrative Agent to take such other action required to enable the Administrative Agent to cure or remedy the matter in default and preserve the interests of the Administrative Agent. Any amounts paid by the Administrative Agent pursuant to this **Section 11.03** shall be payable in accordance with **Section 14.03(a)**, shall accrue interest at the Default Rate if not paid when due, and shall constitute "Obligations."

11.04 Payment of Yield Protection Premium and Exit Fee. Notwithstanding anything in this Agreement to the contrary, the Yield Protection Premium and the Exit Fee shall automatically be due and payable at any time the Obligations become due and payable prior to the Maturity Date in accordance with the terms hereof as though such Indebtedness was voluntarily prepaid and shall constitute part of the Obligations, whether due to acceleration pursuant to the terms of this Agreement (in which case it shall be due immediately, upon the giving of notice to Borrower in accordance with **Section 11.02(a)**, or automatically, in accordance with **Section 11.02(b)**), by operation of law or otherwise (including on account of any bankruptcy filing), in view of the impracticability and extreme difficulty of ascertaining the actual amount of damages to the Lenders or profits lost by the Lenders as a result of such acceleration, and by mutual agreement of the parties as to a reasonable estimation and calculation of the lost profits or damages of the Lenders as a result thereof. Any Yield Protection Premium or Exit Fee (or, if required, both the Yield Protection Premium and the Exit Fee) payable pursuant to this Agreement shall be presumed to be the liquidated damages sustained by each Lender as the result of the early termination, acceleration or prepayment and each Obligor agrees that such Yield Protection Premium or Exit Fee is reasonable under the circumstances currently existing. The Yield Protection Premium and Exit Fee shall also be payable in the event the Obligations (and/or this Agreement) are satisfied or released by foreclosure (whether by power of judicial proceeding), deed in lieu of foreclosure or by any other means or the Obligations are reinstated pursuant to

Section 1124 of the Bankruptcy Code. If the Yield Protection Premium and/or Exit Fee becomes due and payable pursuant to this Agreement, such Yield Protection Premium or Exit Fee shall be deemed to be principal of the Loans and Obligations under this Agreement and interest shall accrue on the full principal amount of the Loans (including the Yield Protection Premium and Exit Fee) from and after the applicable triggering event. In the event the Yield Protection Premium or Exit Fee is determined not to be due and payable by order of any court of competent jurisdiction, including by operation of the Bankruptcy Code, despite such a triggering event having occurred, such Yield Protection Premium and Exit Fee, shall nonetheless constitute Obligations under this Agreement for all purposes hereunder. **EACH OBLIGOR HEREBY WAIVES THE PROVISIONS OF ANY PRESENT OR FUTURE STATUTE OR LAW THAT PROHIBITS OR MAY PROHIBIT THE COLLECTION OF THE YIELD PROTECTION PREMIUM OR EXIT FEE AND ANY DEFENSE TO PAYMENT, WHETHER SUCH DEFENSE MAY BE BASED IN PUBLIC POLICY, AMBIGUITY, OR OTHERWISE.** The Obligors, the Administrative Agent and the Lenders acknowledge and agree that any Yield Protection Premium and the Exit Fee due and payable in accordance with this Agreement shall not constitute unmatured interest, whether under Section 5.02(b)(3) of the Bankruptcy Code or otherwise. Each Obligor further acknowledges and agrees, and waives any argument to the contrary, that payment of such amount does not constitute a penalty or an otherwise unenforceable or invalid obligation. Each Obligor expressly agrees that (i) the Yield Protection Premium and Exit Fee are each reasonable and each is the product of an arm's-length transaction between sophisticated business people, ably represented by counsel, (ii) the Yield Protection Premium and Exit Fee shall be payable notwithstanding the then prevailing market rates at the time payment is made, (iii) there has been a course of conduct between the Lenders and the Obligors giving specific consideration in this transaction for such agreement to pay the Yield Protection Premium and Exit Fee, (iv) the Obligors shall be estopped hereafter from claiming differently than as agreed to in this **Section 11.04**, (v) their agreement to pay the Yield Protection Premium and Exit Fee is a material inducement to the Lenders to make the Loans, and (vi) the Yield Protection Premium and Exit Fee represent a good faith, reasonable estimate and calculation of the lost profits, losses or other damages of the Lenders and that it would be impractical and extremely difficult to ascertain the actual amount of damages to the Lenders or profits lost by the Lenders as a result of such event.

SECTION 12.
THE ADMINISTRATIVE AGENT

12.01 Appointment and Duties. Subject in all cases to **clause (c)** below:

(a) **Appointment of the Administrative Agent**. Each of the Lenders hereby irrevocably appoints Symbiotic Capital Agency LLC (together with any successor Administrative Agent pursuant to **Section 12.09**) as the Administrative Agent hereunder and authorizes the Administrative Agent to (i) execute and deliver the Loan Documents and accept delivery thereof on its behalf from any Obligor or any of its Subsidiaries, (ii) take such action on its behalf and to exercise all rights, powers and remedies and perform the duties as are expressly delegated to the Administrative Agent under such Loan Documents and (iii) exercise such powers as are reasonably incidental thereto. Except as expressly set forth herein, the provisions of this **Section 12** (other than **Sections 12.09**, **12.10** and **12.13**, and solely to the extent expressly set forth therein) are solely for the benefit of the Administrative Agent and the Lenders, and no Obligor or any Affiliate thereof shall have rights as a third-party beneficiary of any such provisions.

(b) **Duties as Collateral and Disbursing Agent**. Without limiting the generality of **Section 12.01(a)**, the Administrative Agent shall have the sole and exclusive right and authority (to the exclusion of the Lenders), and is hereby authorized, to, (i), act as the disbursing and collecting agent for the Lenders with respect to all payments and collections arising in connection with the Loan Documents (including in any proceeding described in **Section 11.01(h)** or any other bankruptcy, insolvency or similar proceeding, but excluding any payments owing from Borrower pursuant to **Section 3** hereof) in accordance with the wire instructions submitted to the Administrative Agent by such Lender, and each Person making any payment in connection with any Loan Document to any Secured Party is hereby authorized to make such payment to the Administrative Agent or its designated custodian, (ii) file and prove claims and file other documents necessary or desirable to allow the claims of the Secured Parties with respect to any Obligation in any proceeding described in **Section 11.01(h)** or any other bankruptcy, insolvency or similar proceeding and to accept or reject or object to any plan of reorganization, plan of liquidation, court-supervised asset sale, or similar arrangement on behalf of each Lender and, in connection with each Lender's claims in respect of the Loans and all other Obligations, to otherwise move for, vote on, consent to, object to, or refrain from objecting to, any proposed action or requested relief in any manner that Administrative Agent deems appropriate for the enforcement of its rights hereunder, (iii) act as collateral agent for each Secured Party for purposes of acquiring, holding, enforcing and perfecting all Liens created by the Loan Documents and all other purposes stated therein, (iv) manage, supervise and otherwise deal with the Collateral, (v) take such other action as is necessary or desirable to maintain the perfection and priority of the Liens created or purported to be created by the Loan Documents, (vi) except as may be otherwise specified in any Loan Document, exercise all remedies given to the Administrative Agent and the other Secured Parties with respect to the Collateral, whether under the Loan Documents, applicable Laws or otherwise, (vii) enter into non-disturbance agreements and similar agreements and (viii) execute any amendment, consent or waiver under the Loan Documents on behalf of any Lender that has consented in writing to such amendment, consent or waiver (if such consent is expressly required hereby).

(c) **Limited Duties**. The Lenders and the Obligors hereby each acknowledge and agree that the Administrative Agent (i) has undertaken its role hereunder purely as an accommodation to the parties hereto and the Transactions, and (ii) subject only to the notice provisions set forth in **Section 12.09**, may resign from such role at any time for any reason or no reason whatsoever. Without limiting the foregoing, the parties hereto further acknowledge and agree that under the Loan Documents, the Administrative Agent (i) is acting solely on behalf of the Lenders (except to the limited extent provided in **Section 12.11**), with duties that are entirely administrative in nature, notwithstanding the use of the defined term "the Administrative Agent", the terms "agent", "administrative agent" and "collateral agent" and similar terms in any Loan Document to refer to the Administrative Agent, which terms are used for title purposes only, (ii) is not assuming any duty or obligation under any Loan Document other than as expressly set forth therein or any role as agent, fiduciary or trustee of or for any Lender or any other Secured Party and (iii) shall have no implied functions, responsibilities, duties, obligations or other liabilities under any Loan Document (fiduciary or otherwise), in each case, regardless of whether a Default has occurred and is continuing. Without in any way limiting the foregoing, the Administrative Agent shall not, except as expressly set forth in this Agreement and in the other Loan Documents, have any duty to disclose, and shall not be liable for the failure to disclose, any information relating to any Obligor or any of its Affiliates that is communicated to or obtained by the Person serving as the Administrative Agent or any of its Affiliates in any capacity.

12.02 Binding Effect. Each Lender agrees that (i) any action taken by the Administrative Agent or the Majority Lenders (or, if expressly required hereby, a greater proportion of the Lenders) in accordance with the provisions of the Loan Documents, (ii) any action taken by the Administrative Agent in reliance upon the instructions of the Majority Lenders (or, where so required, such greater proportion) and (iii) the exercise by the Administrative Agent or the Majority Lenders (or, where so required, such greater proportion) of the powers set forth herein or therein, together with such other powers as are reasonably incidental thereto, shall be authorized and binding upon all of the Secured Parties.

12.03 Use of Discretion.

(a) **No Action without Instructions**. The Administrative Agent shall not be required to exercise any discretion or take, or to omit to take, any action, including with respect to enforcement or collection, except (subject to **clause (b)** below) any action it is required to take or omit to take (i) under any Loan Document or (ii) pursuant to written instructions from the Majority Lenders (or, where expressly required by the terms of this Agreement, a greater proportion of the Lenders).

(b) **Right Not to Follow Certain Instructions**. Notwithstanding **Section 12.03(a)** or any other term or provision of this **Section 12**, the Administrative Agent shall not be required to take, or to omit to take, any action (i) unless, upon demand, the Administrative Agent receives an indemnification satisfactory to it from the Lenders (or, to the extent applicable and acceptable to the Administrative Agent, any other Secured Party) against all liabilities that, by reason of such action or omission, may be imposed on, incurred by or asserted against the Administrative Agent or any Related Party thereof or (ii) that is, in the opinion of the Administrative Agent, in its sole and absolute discretion, contrary to any Loan Document, Law or the best interests of the Administrative Agent or any of its Affiliates or Related Parties, including, for the avoidance of doubt, any action that may be in violation of the automatic stay in connection with any Insolvency Proceeding.

12.04 Delegation of Rights and Duties. The Administrative Agent may, upon any term or condition it specifies, delegate or exercise any of its rights, powers and remedies under, and delegate or perform any of its duties or any other action with respect to, any Loan Document by or through any trustee, co-agent, employee, attorney-in-fact and any other Person (including any Secured Party). The Administrative Agent and any such Person may perform any and all of its duties and exercise its rights and powers by or through their respective Related Parties. Any such Person and its Related Parties shall benefit from this **Section 12** to the extent provided by the Administrative Agent; provided, however, that the exculpatory provisions of this **Section 12** shall apply to any such sub-agent and to the Related Parties of the Administrative Agent and of any such sub-agent, and shall apply to their respective activities in connection with their activities as Administrative Agent. The Administrative Agent shall not be responsible for the negligence or misconduct of any sub-agents except to the extent that a court of competent jurisdiction determines in a final and non-appealable judgment that the Administrative Agent acted with gross negligence or willful misconduct in the selection of such sub-agents.

12.05 Reliance and Liability.

(a) The Administrative Agent may, without incurring any liability hereunder, (i) consult with any of its Related Parties and, whether or not selected by it, any other advisors, accountants and other experts (including advisors to, and accountants and experts engaged by, any Obligor) and (ii) rely and act upon any notice, request, certificate, consent, statement, instrument, document or other writing (including and electronic message, Internet or intranet website posting or other distribution), telephone message or conversation or oral conversation, in each case believed by it to be genuine and transmitted, signed or otherwise authenticated by the appropriate parties. In determining compliance with any condition hereunder to the making of a Loan that by its terms must be fulfilled to the satisfaction of a Lender, the Administrative Agent may presume that such condition is satisfactory to such Lender unless the Administrative Agent shall have received written notice to the contrary from such Lender prior to the making of such Loan.

(b) Neither the Administrative Agent nor any of its Related Parties shall be liable for any action taken or omitted to be taken by any of them under or in connection with any Loan Document, and each Lender and the Borrower hereby waive and shall not assert (and the Borrower shall cause each other Obligor to waive and agree not to assert) any right, claim or cause of action based thereon, except to the extent of liabilities resulting primarily from the gross negligence or willful misconduct of the Administrative Agent or, as the case may be, such Related Party (each as determined in a final, non-appealable judgment or order by a court of competent jurisdiction) in connection with the duties expressly set forth herein. Without limiting the foregoing, the Administrative Agent:

(i) shall not be responsible or otherwise incur liability for any action or omission taken in reliance upon the instructions of, or with the consent of, the Majority Lenders (or such other number or percentage of the Lenders as shall be necessary, or as the Administrative Agent shall believe in good faith to be necessary, under the circumstances as provided in **Section 14.04**) or for the actions or omissions of any of its Related Parties selected with reasonable care (other than employees, officers and directors of the Administrative Agent, when acting on behalf of the Administrative Agent);

(ii) shall not be responsible to any Secured Party for the (a) validity, enforceability, effectiveness or genuineness of this Agreement, any other Loan Document or any other agreement, instrument or document, or (b) due execution, legality, validity, enforceability, effectiveness, genuineness, sufficiency or value of, or the attachment, perfection or priority of any Lien created or purported to be created under or in connection with, any Loan Document;

(iii) makes no warranty or representation, and shall not be responsible, to any Secured Party for, and shall not have any duty to ascertain or inquire into, any statement, document, information, certificate, report, representation or warranty made or furnished by or on behalf of any Related Party, in or in connection with any Loan Document or any transaction contemplated therein, whether or not transmitted by the Administrative Agent, including as to completeness, accuracy, scope or adequacy thereof, or for the scope, nature or results of any due diligence performed by the Administrative Agent in connection with the Loan Documents, including, for the avoidance of doubt, the satisfaction of any condition set forth in **Section 6** of this Agreement or elsewhere herein (other than to confirm receipt of items expressly required to be delivered to the Administrative Agent); and

(iv) shall not have any duty to ascertain or to inquire as to the performance or observance of any provision of any Loan Document or whether any condition set forth in any Loan Document is satisfied or waived, including, without limiting the generality of the foregoing, as to the financial condition of any Obligor or as to the existence or continuation or possible occurrence or continuation of any Default or Event of Default and shall not be deemed to have notice or knowledge of such occurrence or continuation unless it has received a notice from the Borrower, any Lender describing such Default or Event of Default clearly labeled "notice of default" (in which case the Administrative Agent shall promptly give notice of such receipt to all Lenders);

and, for each of the items set forth in **clauses (i)** through **(iv)** above, each Lender and the Borrower hereby waives and agrees not to assert (and the Borrower shall cause each other Obligor to waive and agree not to assert) any right, claim or cause of action it might have against the Administrative Agent based thereon, except to the extent resulting from the gross negligence or willful misconduct of the Administrative Agent as determined in a final, non-appealable judgment or order by a court of competent jurisdiction.

12.06 Administrative Agent Individually. The Administrative Agent and its Affiliates may make loans and other extensions of credit to, acquire stock and stock equivalents of, accept deposits from, act as the financial advisor for or in any other advisory capacity for, or engage in any kind of business with, any Obligor or Affiliate thereof as though it were not acting as the Administrative Agent and may receive separate fees and other payments therefor. To the extent the Administrative Agent or any of its Affiliates makes any Loan or otherwise becomes a Lender hereunder, it shall have and may exercise the same rights and powers hereunder and shall be subject to the same obligations and liabilities as any other Lender and the terms "Lender", "Majority Lender", and any similar terms shall, except where otherwise expressly provided in any Loan Document, include the Administrative Agent or such Affiliate, as the case may be, in its individual capacity as Lender or as one of the Majority Lenders, respectively.

12.07 Lender Credit Decision. Each Lender acknowledges that it has, independently and without reliance upon the Administrative Agent, any Lender or any of their Related Parties or upon any document solely or in part because such document was transmitted by the Administrative Agent or any of its Related Parties, conducted its own independent investigation of the financial condition and affairs of each Obligor and has made and continues to make its own credit decisions in connection with entering into, and taking or not taking any action under, any Loan Document or with respect to any transaction contemplated in any Loan Document, in each case based on such documents and information as it shall deem appropriate.

12.08 Expenses; Indemnities.

(a) Each Lender agrees to reimburse the Administrative Agent and each of its Related Parties (to the extent not reimbursed by any Obligor) promptly upon demand for such Lender's Proportionate Share of any costs and expenses (including fees, charges and disbursements of financial, legal and other advisors paid in the name of, or on behalf of, any Obligor) that may be incurred by the Administrative Agent or any of its Related Parties in connection with the preparation, syndication, execution, delivery, administration, modification, consent, waiver or enforcement (whether through negotiations, through any work-out, bankruptcy, restructuring or other legal or other proceeding or otherwise) of, or legal advice in respect of its rights or responsibilities under, any Loan Document.

(b) Each Lender further agrees to indemnify the Administrative Agent (or any sub-agent thereof) and any Related Parties of the Administrative Agent (or any such sub-agent) (to the extent not paid by any Obligor), from and against such Lender's aggregate Proportionate Share of the liabilities (including taxes, interests and penalties imposed for not properly withholding or backup withholding on payments made to on or for the account of any Lender) that may be imposed on, incurred by or asserted against the Administrative Agent (or any sub-agent thereof) or any Related Parties of the Administrative Agent (or any such sub-agent) in any matter relating to or arising out of, in connection with or as a result of any Loan Document or any other act, event or transaction related, contemplated in or attendant to any such document, or, in each case, any action taken or omitted to be taken by the Administrative Agent (or any sub-agent thereof) or any Related Parties of the Administrative Agent (or any such sub-agent) under or with respect to any of the foregoing; provided that no Lender shall be liable to the Administrative Agent (or any sub-agent thereof) or any Related Parties of the Administrative Agent (or any such sub-agent) to the extent such liability has resulted primarily from the gross negligence or willful misconduct of the Administrative Agent (or any sub-agent thereof) or, as the case may be, such Related Party of the Administrative Agent (or any sub-agent thereof), as determined by a court of competent jurisdiction in a final non-appealable judgment or order.

The obligations of the Lenders to make payments pursuant to this **Section 12.08** are several and not joint.

12.09 Resignation of the Administrative Agent.

(a) At any time upon not less than twenty (20) days prior written notice to the Lenders and the Borrower, the Administrative Agent may resign as the "Administrative Agent" hereunder (in the sole and absolute discretion of the Administrative Agent). If the Administrative Agent delivers any such notice, the Majority Lenders shall have the right, in consultation with the Borrower, to appoint a successor, which shall be (i) a Lender holding at least thirty percent (30%) of the outstanding principal amount of the Loans or any Affiliate thereof or (ii) any other financial institution consented to by the Borrower (provided that the consent of the Borrower shall not be required to the extent an Event of Default has occurred and is continuing). If a successor Administrative Agent has not been appointed on or before the effectiveness of the resignation of the resigning Administrative Agent (or such earlier date as shall be agreed by the Majority Lenders) (the "***Resignation Effective Date***"), then the resigning Administrative Agent may (but shall not be obligated to), on behalf of the Lenders, appoint any Person reasonably chosen by it as the successor Administrative Agent meeting the qualifications set forth above; provided that in no event shall any such successor Administrative Agent be a Defaulting Lender. Whether or not a successor has been appointed, such resignation shall become effective on the Resignation Effective Date.

(b) Effective from the Resignation Effective Date, (i) the resigning Administrative Agent shall be discharged from its duties and obligations under the Loan Documents to the extent set forth in the applicable resignation notice, (ii) the Majority Lenders shall assume and perform all of the duties of the Administrative Agent until a successor Administrative Agent shall have accepted a valid appointment hereunder, (iii) the resigning Administrative Agent and its Related Parties shall no longer have the benefit of any provision of any Loan Document other than with respect to (x) any actions taken or omitted to be taken while such resigning Administrative Agent was, or because the Administrative Agent had been, validly acting as the Administrative Agent under the Loan Documents or (y) any continuing duties such resigning Administrative Agent will continue to perform, and (iv) subject to its rights under **Section 12.04**, the resigning Administrative Agent shall take such action as may be reasonably necessary to assign to the successor Administrative Agent its rights as the Administrative Agent under the Loan Documents. Effective immediately upon its acceptance of a valid appointment as the Administrative Agent, a successor Administrative Agent shall succeed to, and become vested with, all the rights, powers, privileges and duties of the resigning Administrative Agent under the Loan Documents.

12.10 Release of Collateral or Guarantors. Each Lender hereby consents to the release and hereby directs the Administrative Agent to release, and the Administrative Agent hereby agrees, (or, in the case of **Section 12.10(b)**, release or subordinate) the following:

(a) any Subsidiary of the Borrower from its guaranty of any Obligation of any Obligor (i) if all of the Equity Interests in such Subsidiary owned by any Obligor or any of its Subsidiaries are disposed of in an Asset Sale permitted under the Loan Documents (including pursuant to a waiver or consent), to the extent that, after giving effect to such Asset Sale, such Subsidiary would not be required to guaranty any Obligations pursuant to **Section 8.12(a)** and (ii) upon (x) termination of the Commitments and (y) payment and satisfaction in full of all Loans and all other Obligations that the Administrative Agent has been notified in writing are then due and payable (other than inchoate indemnification and expense reimbursement obligations for which no claim has been made); and

(b) any Lien held by the Administrative Agent for the benefit of the Secured Parties against (i) any Collateral that is disposed of by an Obligor in an Asset Sale permitted by the Loan Documents (including pursuant to a valid waiver or consent), (ii) any property subject to a Lien described in **Section 9.02(c)** or **(j)**, and (iii) all of the Collateral and all Obligors, upon (x) termination of the Commitments and (y) payment and satisfaction in full of all Loans and all other Obligations that the Administrative Agent has been notified in writing are then due and payable (other than inchoate indemnification and expense reimbursement obligations for which no claim has been made).

Each Lender hereby directs the Administrative Agent, and the Administrative Agent hereby agrees, upon receipt of reasonable advance notice from the Borrower, to execute and deliver or file such documents and to perform other actions reasonably necessary to release the guarantees and Liens when and as directed in this **Section 12.10** and deliver to the Borrower, at the expense of the Borrower, any portion of such Collateral so released pursuant to this **Section 12.10** that is in possession of the Administrative Agent. In addition, in connection with any Permitted Licenses, each Lender hereby authorizes Administrative Agent to, and at the request of the Borrower, the Administrative Agent shall, negotiate and enter into a non-disturbance agreement and other similar agreements in form and substance reasonably satisfactory to Administrative Agent.

Notwithstanding the foregoing or anything to the contrary herein, (i) the release of any Obligor from its guaranty of any Obligations under this **Section 12.10** or otherwise hereunder shall only be permitted if any such permitted transaction or series of related transactions is not consummated for the primary purpose of effecting a release of such Obligor from its Obligations under the Loan Documents in accordance with the terms hereof, and (ii) the Administrative Agent may not effect a release of any Obligor that ceases to be an Obligor due solely to a disposition of Equity Interests in (or issuance of Equity Interests by) such Obligor, unless in the case of this **clause (ii)** the transaction related to such release is permitted by the Loan Documents.

12.11 Additional Secured Parties. The benefit of the provisions of the Loan Documents directly relating to the Collateral or any Lien granted thereunder shall extend to and be available to any Secured Party that is not a Lender as long as, by accepting such benefits, such Secured Party agrees, as among the Administrative Agent and all other Secured Parties, that such Secured Party is bound by (and, if requested by the Administrative Agent, shall confirm such agreement in a writing in form and substance acceptable to the Administrative Agent) this **Section 12** and the decisions and actions of the Administrative Agent and the Majority Lenders (or, where expressly required by the terms of this Agreement, a greater proportion of the Lenders) to the same extent a Lender is bound; provided that, notwithstanding the foregoing, (i) such Secured Party shall be bound by **Section 12.08** only to the extent of liabilities, costs and expenses with respect to or otherwise relating to the Collateral held for the benefit of such Secured Party, in which case the obligations of such Secured Party thereunder shall not be limited by any concept of Proportionate Share or similar concept, (ii) each of the Administrative Agent and each Lender shall be entitled to act at its sole discretion, without regard to the interest of such Secured Party, regardless of whether any Obligation to such Secured Party thereafter remains outstanding, is deprived of the benefit of the Collateral, becomes unsecured or is otherwise affected or put in jeopardy thereby, and without any duty or liability to such Secured Party or any such Obligation and (iii) such Secured Party shall not have any right to be notified of, consent to, direct, require or be heard with respect to, any action taken or omitted in respect of the Collateral or under any Loan Document.

12.12 Agent May File Proofs of Claim. In case of the pendency of any Insolvency Proceeding or any other judicial proceeding relating to any Obligor, the Administrative Agent (irrespective of whether the principal of any Loan shall then be due and payable as herein expressed or by declaration or otherwise and irrespective of whether the Administrative Agent shall have made any demand on the Borrower or any other Obligor) shall be entitled and empowered (but not obligated) by intervention or such proceeding or otherwise:

(a) to file and prove a claim for the whole amount of the principal and interest owing and unpaid in respect of the Loans and all other Obligations that are owing and unpaid and to file such other documents as may be necessary or advisable in order to have the claims of the Lenders and the Administrative Agent (including any claim for the reasonable compensation, expenses, disbursements and advances of the Lenders and the Administrative Agent and their respective agents and counsel and all other amounts due the Lenders and the Administrative Agent under **Section 14.03**) allowed in such judicial proceeding;

(b) to accept or reject or object to any plan of reorganization, plan of liquidation, court-supervised asset sale, or similar arrangement on behalf of each Lender and, in connection with each Lender's claims in respect of the Loans and all other Obligations, to otherwise move for, vote on, consent to, object to, or refrain from objecting to, any proposed action or requested relief in any manner that Administrative Agent deems appropriate for the enforcement of its rights hereunder; and

(c) to collect and receive any monies or other property payable or deliverable on any such claims and to distribute the same;

and any custodian, receiver, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceeding is hereby authorized by each Lender to make such payments to the Administrative Agent and, in the event that the Administrative Agent shall consent to the making of such payments directly to the Lenders, to pay to the Administrative Agent any amount due for the reasonable compensation, expenses, disbursements and advances of the Administrative Agent and its agents and counsel, and any other amounts due to the Administrative Agent under **Section 14.03**.

Any Lender may file proofs of claim or appear and file pleadings on its own behalf so long as the positions taken by such Lender in any such pleadings (or in connection with an appearance) shall be consistent with the positions taken by the Administrative Agent in its pleadings and/or its actions (or non-actions) taken in accordance with **clause (b)**, above, during the pendency of a proceeding relative to the Borrower or any Guarantor under any debtor relief Law.

12.13 Acknowledgements of Lenders.

(a) If the Administrative Agent notifies a Lender, or any Person who has received funds on behalf of a Lender (any such Lender or other recipient, a "***Payment Recipient***"), that the Administrative Agent has determined in its sole discretion (whether or not after receipt of any notice under immediately succeeding **clause (b)**) that any funds (as set forth in such notice from the Administrative Agent) received by such Payment Recipient from the Administrative Agent or any of its Affiliates were erroneously transmitted to, or otherwise erroneously or mistakenly received by, such Payment Recipient (whether or not known to such Lender or other Payment Recipient on its behalf) (any such funds, whether transmitted or received as a payment, prepayment or repayment of principal, interest, fees, distribution or otherwise, individually and collectively, an "***Erroneous Payment***") and demands in writing the return of such Erroneous Payment (or a portion thereof), such Erroneous Payment shall at all times remain the property of the Administrative Agent pending its return or repayment as contemplated below in this **Section 12.13** and held in trust for the benefit of the Administrative Agent, and such Lender shall (or, with respect to any Payment Recipient who received such funds on its behalf, shall cause such Payment Recipient to) promptly, but in no event later than two Business Days thereafter (or such later date as the Administrative Agent may, in its sole discretion, specify in writing), return to the Administrative Agent the amount of any such Erroneous Payment (or portion thereof) as to which such a demand was made, in same day funds (in the currency so received), together with interest thereon (except to the extent waived in writing by the Administrative Agent) in respect of each day from the date such Erroneous Payment (or portion thereof) was received by such Payment Recipient to the date such amount is repaid to the Administrative Agent in same day funds at the greater of the Federal Funds Effective Rate and a rate determined by the Administrative Agent in accordance with banking industry rules on interbank compensation from time to time in effect. A notice of the Administrative Agent to any Payment Recipient under this **clause (a)** shall be conclusive, absent manifest error.

(b) Without limiting immediately preceding **clause (a)**, each Payment Recipient, hereby further agrees that if it receives a payment, prepayment or repayment (whether received as a payment, prepayment or repayment of principal, interest, fees, distribution or otherwise) from the Administrative Agent (or any of its Affiliates) (x) that is in a different amount than, or on a different date from, that specified in this Agreement or in a notice of payment, prepayment or repayment sent by the Administrative Agent (or any of its Affiliates) with respect to such payment, prepayment or repayment (a "***Payment Notice***"), (y) that was not preceded or accompanied by a Payment Notice, or (z) that such Payment Recipient otherwise becomes aware was transmitted, or received, in error or by mistake (in whole or in part), then, in each such case: (i) it acknowledges and agrees that (A) in the case of immediately preceding **clauses (x)** or **(y)**, an error and mistake shall be presumed to have been made (absent written confirmation from the Administrative Agent to the contrary) or (B) an error and mistake has been made (in the case of immediately preceding **clause (z)**), in each case, with respect to such payment, prepayment or repayment; and (ii) such Payment Recipient shall promptly (and, in all events, within one (1) Business Day of its knowledge of the occurrence of any of the circumstances described in immediately preceding **clauses (x)**, **(y)** or **(z)**) notify the Administrative Agent of its receipt of such payment, prepayment or repayment, the details thereof (in reasonable detail) and that it is so notifying the Administrative Agent pursuant to this **Section 12.13(b)(ii)**.

(c) Each Lender hereby authorizes the Administrative Agent to set off, net and apply any and all amounts at any time owing to such Lender under any Loan Document, or otherwise payable or distributable by the Administrative Agent to such Lender under any Loan Document with respect to any payment of principal, interest, fees or other amounts, against any amount that the Administrative Agent has demanded to be returned under the preceding **clause (a)** above.

(d) In the event that an Erroneous Payment (or portion thereof) is not recovered by the Administrative Agent for any reason, after demand therefor by the Administrative Agent in accordance with the preceding **clause (a)** above, from any Lender that has received such Erroneous Payment (or portion thereof) (and/or from any Payment Recipient who received such Erroneous Payment (or portion thereof) on its respective behalf) (such unrecovered amount, an "***Erroneous Payment Return Deficiency***"), upon the Administrative Agent's notice to such Lender at any time, then effective immediately (with the consideration therefor being acknowledged by the parties hereto), (i) such Lender shall be deemed to have assigned its Loans (but not its Commitments) with respect to which such Erroneous Payment was made (the "***Erroneous Payment Impacted Loans***") in an amount equal to the Erroneous Payment Return Deficiency (or such lesser amount as the Administrative Agent may specify) (such assignment of the Loans (but not Commitments) of the Erroneous Payment Impacted Loans, the "***Erroneous Payment Deficiency Assignment***") (on a cashless basis and such amount calculated at par plus any accrued and unpaid interest (with the assignment fee to be waived by the Administrative Agent in such instance)), and is hereby (together with the Borrower) deemed to execute and deliver an Assignment and Assumption with respect to such Erroneous Payment Deficiency Assignment, and such Lender shall deliver any Notes evidencing such Loans to the Borrower or the Administrative Agent (but the failure of such Person to deliver any such notes shall not affect the effectiveness of the foregoing assignment), (ii) the Administrative Agent as the assignee Lender shall be deemed to have acquired the

Erroneous Payment Deficiency Assignment, (iii) upon such deemed acquisition, the Administrative Agent as the assignee Lender shall become a Lender, as applicable, hereunder with respect to such Erroneous Payment Deficiency Assignment and the assigning Lender shall cease to be a Lender, as applicable, hereunder with respect to such Erroneous Payment Deficiency Assignment, excluding, for the avoidance of doubt, its obligations under the indemnification provisions of this Agreement and its applicable Commitments which shall survive as to such assigning Lender, (iv) the Administrative Agent and the Borrower shall each be deemed to have waived any consents required under this Agreement to any such Erroneous Payment Deficiency Assignment, and (v) the Administrative Agent shall reflect in the Register its ownership interest in the Loans subject to the Erroneous Payment Deficiency Assignment. Subject to **Section 14.05**, the Administrative Agent may, in its discretion, sell any Loans acquired pursuant to an Erroneous Payment Deficiency Assignment and upon receipt of the proceeds of such sale, the Erroneous Payment Return Deficiency owing by the applicable Lender shall be reduced by the net proceeds of the sale of such Loan (or portion thereof), and the Administrative Agent shall retain all other rights, remedies and claims against such Lender (and/or against any recipient that receives funds on its respective behalf). For the avoidance of doubt, no Erroneous Payment Deficiency Assignment shall reduce the Commitments of any Lender and such Commitments shall remain available in accordance with the terms of this Agreement. In addition, each party hereto agrees that, except to the extent that the Administrative Agent has sold a Loan (or portion thereof) acquired pursuant to an Erroneous Payment Deficiency Assignment, and irrespective of whether the Administrative Agent may be equitably subrogated, the Administrative Agent shall be contractually subrogated to all the rights and interests of the applicable Lender under the Loan Documents with respect to each Erroneous Payment Return Deficiency (the "***Erroneous Payment Subrogation Rights***") (provided, that the Obligors' Obligations under the Loan Documents in respect of the Erroneous Payment Subrogation Rights shall not be duplicative of such Obligations in respect of Loans that have been assigned to the Administrative Agent under an Erroneous Payment Deficiency Assignment).

(e) The parties hereto agree that an Erroneous Payment shall not pay, prepay, repay, discharge or otherwise satisfy any Obligations owed by the Borrower or any other Obligor; provided, that this **Section 12.13** shall not be interpreted to increase (or accelerate the due date for), or have the effect of increasing (or accelerating the due date for), the Obligations of the Borrower relative to the amount (and/or timing for payment) of the Obligations that would have been payable had such Erroneous Payment not been made by the Administrative Agent; provided, further, that for the avoidance of doubt, the last sentence of **clause (d)** above and this **clause (e)** shall not apply to the extent such Erroneous Payment is, and solely with respect to the amount of such Erroneous Payment that is, comprised of funds received by the Administrative Agent from the Borrower or any other Obligor for the purpose of making such Erroneous Payment.

(f) To the extent permitted by applicable law, no Payment Recipient shall assert any right or claim to an Erroneous Payment, and hereby waives, and is deemed to waive, any claim, counterclaim, defense or right of set-off or recoupment with respect to any demand, claim or counterclaim by the Administrative Agent for the return of any Erroneous Payment received, including waiver of any defense based on "discharge for value" or any similar doctrine.

(g) Each party's obligations, agreements and waivers under this **Section 12.13(g)** shall survive the resignation or replacement of the Administrative Agent, any transfer of rights or obligations by, or the replacement of, a Lender, the termination of the Commitments and/or the repayment, satisfaction or discharge of all Obligations (or any portion thereof) under any Loan Document.

SECTION 13.
GUARANTY

13.01 The Guaranty. The Subsidiary Guarantors hereby unconditionally jointly and severally guarantee to the Administrative Agent and the Lenders, and their successors and assigns, the full and punctual payment in full or performance (whether at stated maturity, by acceleration or otherwise) of the Obligations, including (i) principal of and interest on the Loans, (ii) all fees and other amounts and Obligations from time to time owing to the Administrative Agent and the Lenders by the Borrower and each other Obligor under this Agreement or under any other Loan Document, in each case strictly in accordance with the terms hereof and thereof and (iii) the punctual and faithful performance, keeping, observance and fulfillment by the Borrower and Subsidiary Guarantors of all the agreements, conditions, covenants and obligations of the Borrower and Subsidiary Guarantors contained in the Loan Documents (such obligations being herein collectively called the "***Guaranteed Obligations***"). The Subsidiary Guarantors hereby further jointly and severally agree that if the Borrower or any other Obligor shall fail to pay any amount in full when due or perform any such obligation (whether at stated maturity, by acceleration or otherwise), the Subsidiary Guarantors shall promptly pay the same or perform such obligation at the place and in the manner specified herein or in the relevant Loan Document, as the case may be, without any demand or notice whatsoever, and that in the case of any extension of time of payment or performance or renewal of any of the Guaranteed Obligations, the same shall be promptly paid in full or performed when due (whether at extended maturity, by acceleration or otherwise) in accordance with the terms of such extension or renewal.

13.02 Obligations Unconditional. The obligations of the Subsidiary Guarantors under **Section 13.01** shall constitute a guaranty of payment and performance and not of collection and are absolute and unconditional, joint and several, irrespective of the value, genuineness, validity, regularity or enforceability of the Guaranteed Obligations under this Agreement or any other agreement or instrument referred to herein, or any substitution, release or exchange of any other guarantee of or security for any of the Guaranteed Obligations, and, to the fullest extent permitted by all applicable Laws, irrespective of any other circumstance whatsoever that might otherwise constitute a legal or equitable discharge or defense of a surety or guarantor, it being the intent of this **Section 13.02** that the obligations of the Subsidiary Guarantors hereunder shall be absolute and unconditional, joint and several, under any and all circumstances. Without limiting the generality of the foregoing, it is agreed that the occurrence of any one or more of the following shall not alter or impair the liability of the Subsidiary Guarantors hereunder, which shall remain absolute and unconditional as described above:

(a) at any time or from time to time, without notice to the Subsidiary Guarantors, the time for any performance of or compliance with any of the Guaranteed Obligations shall be extended, or such performance or compliance shall be waived;

(b) any of the acts mentioned in any of the provisions of this Agreement or any other agreement or instrument referred to herein shall be done or omitted;

(c) the maturity of any of the Guaranteed Obligations shall be accelerated, or any of the Guaranteed Obligations shall be extended, modified, supplemented or amended in any respect, or any right under this Agreement or any other agreement or instrument referred to herein shall be waived or any other guarantee of any of the Guaranteed Obligations or any security therefor shall be released or exchanged in whole or in part or otherwise dealt with;

(d) any lien or security interest granted to, or in favor of, the Secured Parties as security for any of the Guaranteed Obligations shall fail to be perfected or preserved;

(e) any modification or amendment of or supplement to this Agreement or any other Loan Document, including any such amendment which may increase the amount of, or the interest rates applicable to, any of the Guaranteed Obligations guaranteed hereby;

(f) any change in the corporate, partnership, limited liability company or other existence, structure or ownership of the Borrower, any Subsidiary Guarantor or any other guarantor of any of the Guaranteed Obligations, or any Insolvency Proceeding or other similar proceeding affecting the Borrower, any Subsidiary Guarantor or any other guarantor of the Guaranteed Obligations, or any of their respective assets, or any resulting release or discharge of any obligation of the Borrower, any Subsidiary Guarantor or any other guarantor of any of the Guaranteed Obligations;

(g) the existence of any claim, setoff or other rights which any Subsidiary Guarantor may have at any time against the Borrower, any other Subsidiary Guarantor or any other guarantor of any of the Guaranteed Obligations, the Administrative Agent, any Secured Party or any other Person, whether in connection herewith or in connection with any unrelated transactions; provided that, notwithstanding any other provisions in this Guaranty, nothing in this Guaranty shall prevent the assertion of any such claim by separate suit or compulsory counterclaim;

(h) the unenforceability or invalidity of the Guaranteed Obligations or any part thereof or the lack of genuineness, enforceability or validity of any agreement relating thereto or with respect to the Collateral, if any, securing the Guaranteed Obligations or any part thereof, or any other invalidity or unenforceability relating to or against the Borrower, any Subsidiary Guarantor or any other guarantor of any of the Guaranteed Obligations, for any reason, related to this Agreement or any other Loan Document, or any provision of applicable Law, decree, order or regulation of any jurisdiction purporting to prohibit the payment of any of the Guaranteed Obligations by the Borrower, any Subsidiary Guarantor or any other guarantor of the Guaranteed Obligations;

(i) the disallowance, under any state or federal bankruptcy, insolvency or similar law, of all or any portion of the claims of the Secured Parties or the Administrative Agent for repayment of all or any part of the Guaranteed Obligations;

(j) the failure of any other guarantor to sign or become party to this Agreement or any amendment, change, or reaffirmation hereof;

(k) any release, surrender, compromise, settlement, waiver, subordination or modification, with or without consideration, of any Collateral securing the Guaranteed Obligations or any part thereof, any other guaranties with respect to the Guaranteed Obligations or any part thereof, or any other obligation of any person or entity with respect to the Guaranteed Obligations or any part thereof, or any nonperfection or invalidity of any direct or indirect security for the Guaranteed Obligations; or

(l) any other act or omission to act or delay of any kind by the Borrower, such Guarantor, any other guarantor of the Guaranteed Obligations, the Administrative Agent, any Secured Party or any other Person or any other circumstance whatsoever which might, but for the provisions of this **Section 13.02**, constitute a legal or equitable discharge of any Guarantor's obligations hereunder.

The Subsidiary Guarantors hereby expressly waive diligence, presentment, demand of payment, protest and all notices whatsoever, and any requirement that the Administrative Agent or any Lender exhaust any right, power or remedy or proceed against the Borrower or any other Subsidiary Guarantor under this Agreement or any other agreement or instrument referred to herein, or against any other Person under any other guarantee of, or security for, any of the Guaranteed Obligations.

13.03 Discharge Only Upon Payment in Full. Subject to any prior release herefrom of any Subsidiary Guarantor by the Administrative Agent in accordance with (and pursuant to authority granted to the Administrative Agent under) the terms of this Agreement, each Subsidiary Guarantor's obligations hereunder shall remain in full force and effect until all of the Guaranteed Obligations shall have been paid in full in cash (other than inchoate indemnification and expense reimbursement obligations for which no claim has been made) and all other financing arrangements among the Borrower or any Subsidiary Guarantor and the Secured Parties under or in connection with this Agreement and each other Loan Document shall have terminated (herein, the "***Termination Conditions***"), and until the prior and complete satisfaction of the Termination Conditions all of the rights and remedies under this Guaranty and the other Loan Documents shall survive. Notwithstanding the foregoing, the Administrative Agent hereby agrees to release any Subsidiary of the Borrower from its guaranty of any Obligation of any Obligor if all of the Equity Interests in such Subsidiary owned by any Obligor or any of its Subsidiaries are disposed of in an Asset Sale permitted under the Loan Documents (including pursuant to a waiver or consent), to the extent that, after giving effect to such Asset Sale, such Subsidiary would not be required to guarantee any Obligations pursuant to **Section 8.12(a)**.

13.04 Additional Waivers; General Waivers.

(a) **Additional Waivers**. Notwithstanding anything herein to the contrary, each of the Subsidiary Guarantors hereby absolutely, unconditionally, knowingly, and expressly waives:

(i) any right it may have to revoke this Guaranty as to future indebtedness or notice of acceptance hereof;

(ii) (A) notice of acceptance hereof; (B) notice of any other financial accommodations made or maintained under the Loan Documents or the creation or existence of any Guaranteed Obligations; (C) notice of the amount of the Guaranteed Obligations, subject, however, to each Subsidiary Guarantor's right to make inquiry of the Administrative Agent and the Secured Parties to ascertain the amount of the Guaranteed Obligations at any reasonable time;

(D) notice of any adverse change in the financial condition of the Borrower or of any other fact that might increase such Subsidiary Guarantor's risk hereunder; (E) notice of presentment for payment, demand, protest, and notice thereof as to any instruments among the Loan Documents; (F) notice of any Event of Default; and (G) all other notices (except if such notice is specifically required to be given to such Subsidiary Guarantor under this Guaranty or under the other Loan Documents) and demands to which each Subsidiary Guarantor might otherwise be entitled;

(iii) its right, if any, to require the Administrative Agent and the Secured Parties to institute suit against, or to exhaust any rights and remedies which the Administrative Agent and the Secured Parties now have or may hereafter have against, any other guarantor of the Guaranteed Obligations or any third party, or against any Collateral provided by such other guarantors or any third party; and each Subsidiary Guarantor further waives any defense arising by reason of any disability or other defense (other than the defense that the Guaranteed Obligations shall have been fully and finally performed and paid) of any other guarantor of the Guaranteed Obligations or by reason of the cessation from any cause whatsoever of the liability of any other guarantor of the Guaranteed Obligations in respect thereof;

(iv) (A) any rights to assert against the Administrative Agent and the Secured Parties any defense (legal or equitable), set-off, counterclaim, or claim which such Subsidiary Guarantor may now or at any time hereafter have against any other guarantor of the Guaranteed Obligations or any third party liable to the Administrative Agent and the Secured Parties; (B) any defense, set-off, counterclaim or claim, of any kind or nature, arising directly or indirectly from the present or future lack of perfection, sufficiency, validity or enforceability of the Guaranteed Obligations or any security therefor; (C) any defense such Subsidiary Guarantor has to performance hereunder, and any right such Subsidiary Guarantor has to be exonerated, arising by reason of: (1) the impairment or suspension of the Administrative Agent's and the Secured Parties' rights or remedies against any other guarantor of the Guaranteed Obligations; (2) the alteration by the Administrative Agent and the Secured Parties of the Guaranteed Obligations; (3) any discharge of the obligations of any other guarantor of the Guaranteed Obligations to the Administrative Agent and the Secured Parties by operation of law as a result of the Administrative Agent's and the Secured Parties' intervention or omission; or (4) the acceptance by the Administrative Agent and the Secured Parties of anything in partial satisfaction of the Guaranteed Obligations; and (D) the benefit of any statute of limitations affecting such Subsidiary Guarantor's liability hereunder or the enforcement thereof, and any act which shall defer or delay the operation of any statute of limitations applicable to the Guaranteed Obligations shall similarly operate to defer or delay the operation of such statute of limitations applicable to such Subsidiary Guarantor's liability hereunder; and

(v) any defense arising by reason of or deriving from (A) any claim or defense based upon an election of remedies by the Administrative Agent and the other Secured Parties; or (B) any election by the Administrative Agent and the other Secured Parties under any provision of any state or federal bankruptcy, insolvency or similar law to limit the amount of, or any Collateral securing, its claim against the Subsidiary Guarantors.

(b) **General Waivers**. Each Subsidiary Guarantor irrevocably waives, to the fullest extent permitted by Law, any notice not provided for herein.

13.05 Reinstatement. The obligations of the Subsidiary Guarantors under this **Section 13** shall be automatically reinstated if and to the extent that for any reason any payment by or on behalf of the Borrower in respect of the Guaranteed Obligations is at any time rescinded, annulled, avoided, set aside, invalidated, declared to be fraudulent or must be otherwise restored or repaid by any holder of any of the Guaranteed Obligations, whether as a result of any proceedings in bankruptcy or reorganization, equitable cause or otherwise, and the Subsidiary Guarantors jointly and severally agree that they shall indemnify the Secured Parties on demand for all reasonable costs and expenses (including fees of counsel) incurred by such Persons in connection with such rescission, repayment or restoration, including any such costs and expenses incurred in defending against any claim alleging that such payment constituted a preference, fraudulent transfer or similar payment under any state or federal bankruptcy, insolvency or similar law. The provisions of this **Section 13.05** shall survive termination of this Guaranty.

13.06 Subrogation. The Subsidiary Guarantors hereby jointly and severally agree that, until the prior and complete satisfaction of all Termination Conditions, they (i) shall have no right of subrogation with respect to the Guaranteed Obligations and (ii) waive any right to enforce any remedy which the Secured Parties or the Administrative Agent now have or may hereafter have against the Borrower, any endorser or any other guarantor of all or any part of the Guaranteed Obligations or any other Person, and each Subsidiary Guarantor waives any benefit of, and any right to participate in, any security or Collateral that may from time to time be given to the Secured Parties and the Administrative Agent to secure the payment or performance of all or any part of the Guaranteed Obligations or any other liability of the Borrower to the Secured Parties. Should any Subsidiary Guarantor have the right, notwithstanding the foregoing, to exercise its subrogation rights prior to complete satisfaction of the Termination Conditions, each Subsidiary Guarantor hereby expressly and irrevocably (A) subordinates any and all rights at law or in equity to subrogation, reimbursement, exoneration, contribution, indemnification or set-off that such Subsidiary Guarantor may have prior to the complete satisfaction of the Termination Conditions, and (B) waives any and all defenses available to a surety, guarantor or accommodation co-obligor until all Termination Conditions are satisfied in full. Each Subsidiary Guarantor acknowledges and agrees that this subordination is intended to benefit the Administrative Agent and the Secured Parties and shall not limit or otherwise affect such Subsidiary Guarantor's liability hereunder or the enforceability of this Guaranty, and that the Administrative Agent, the Secured Parties and their respective successors and assigns are intended third party beneficiaries of the waivers and agreements set forth in this **Section 13.06**.

13.07 Remedies. The Subsidiary Guarantors jointly and severally agree that, as between the Subsidiary Guarantors, on one hand, and the Administrative Agent and the Lenders, on the other hand, the obligations of the Borrower under this Agreement and under the other Loan Documents may be declared to be forthwith due and payable as provided in **Section 11** (and shall be deemed to have become automatically due and payable in the circumstances provided in **Section 11**) for purposes of **Section 13.01** notwithstanding any stay, injunction or other prohibition, including any such stay upon an Insolvency Proceeding, preventing such declaration (or such obligations from becoming automatically due and payable) as against the Borrower and that, in the event of such declaration (or such obligations being deemed to have become automatically due and payable), such obligations (whether or not due and payable by the Borrower) shall forthwith become due and payable by the Subsidiary Guarantors for purposes of **Section 13.01**.

13.08 Instrument for the Payment of Money. Each Subsidiary Guarantor hereby acknowledges that the guarantee in this **Section 13** constitutes an instrument for the payment of money, and consents and agrees that the Administrative Agent and the Lenders, at their sole option, in the event of a dispute by such Subsidiary Guarantor in the payment of any moneys due hereunder, shall have the right to proceed by motion for summary judgment in lieu of complaint pursuant to N.Y. Civ. Prac. L&R § 3213.

13.09 Continuing Guarantee. The guarantee in this **Section 13** is a continuing guarantee, and shall apply to all Guaranteed Obligations whenever arising.

13.10 Contribution with Respect to Guaranteed Obligations.

(a) To the extent that any Subsidiary Guarantor shall make a payment under this Guaranty (a "***Guarantor Payment***") which, taking into account all other Guarantor Payments then previously or concurrently made by any other Subsidiary Guarantor, exceeds the amount which otherwise would have been paid by or attributable to such Subsidiary Guarantor if each Subsidiary Guarantor had paid the aggregate Guaranteed Obligations satisfied by such Guarantor Payment in the same proportion as such Subsidiary Guarantor's "Allocable Amount" (as defined below) (as determined immediately prior to such Guarantor Payment) bore to the aggregate Allocable Amounts of each of the Subsidiary Guarantors as determined immediately prior to the making of such Guarantor Payment, *then*, following the prior and complete satisfaction of the Termination Conditions, such Subsidiary Guarantor shall be entitled to receive contribution and indemnification payments from, and be reimbursed by, each other Subsidiary Guarantor for the amount of such excess, *pro rata* based upon their respective Allocable Amounts in effect immediately prior to such Guarantor Payment.

(b) As of any date of determination, the "***Allocable Amount***" of any Subsidiary Guarantor shall be equal to the maximum amount of the claim which could then be recovered from such Subsidiary Guarantor under this Agreement without rendering such claim voidable or avoidable under any state or federal bankruptcy, insolvency or similar law or other applicable Law.

(c) This **Section 13.10** is intended only to define the relative rights of the Subsidiary Guarantors, and nothing set forth in this **Section 13.10** is intended to or shall impair the obligations of the Subsidiary Guarantors, jointly and severally, to pay any amounts as and when the same shall become due and payable in accordance with the terms of this Agreement.

(d) The parties hereto acknowledge that the rights of contribution and indemnification hereunder shall constitute assets of the Subsidiary Guarantor or Subsidiary Guarantors to which such contribution and indemnification is owing.

(e) The rights of the indemnifying Subsidiary Guarantors against other Subsidiary Guarantors under this **Section 13.10** shall be exercisable only upon the prior and complete satisfaction of the Termination Conditions.

13.11 General Limitation on Guarantee Obligations. In any action or proceeding involving any provincial, territorial or state corporate law, or any state or federal bankruptcy, insolvency, reorganization or other law affecting the rights of creditors generally, if the obligations of any Subsidiary Guarantor under **Section 13.01** would otherwise be held or determined to be

void, invalid or unenforceable, or subordinated to the claims of any other creditors, on account of the amount of its liability under **Section 13.01**, then, notwithstanding any other provision hereof to the contrary, the amount of such liability shall, without any further action by such Subsidiary Guarantor, the Administrative Agent, any Lender or any other Person, be automatically limited and reduced to the highest amount that is valid and enforceable and not subordinated to the claims of other creditors as determined in such action or proceeding.

SECTION 14.
MISCELLANEOUS

14.01 No Waiver. No failure on the part of the Administrative Agent or the Lenders to exercise and no delay in exercising, and no course of dealing with respect to, any right, power or privilege under any Loan Document shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege under any Loan Document preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The remedies provided herein are cumulative and not exclusive of any remedies provided by law.

14.02 Notices. All notices, requests, instructions, directions and other communications provided for herein (including any modifications of, or waivers, requests or consents under, this Agreement) or in the other Loan Documents shall be given or made in writing (including by telecopy or email) delivered, if to the Borrower, another Obligor, the Administrative Agent or any Lender, to its address specified on the signature pages hereto or its Guarantee Assumption Agreement, as the case may be, or at such other address as shall be designated by such party in a written notice to the other parties. Except as otherwise provided in this Agreement or therein, all such communications shall be deemed to have been duly given upon receipt of a legible copy thereof, in each case given or addressed as aforesaid. All such communications provided for herein by telecopy shall be confirmed in writing promptly after the delivery of such communication (it being understood that non-receipt of written confirmation of such communication shall not invalidate such communication).

14.03 Expenses, Indemnification, Etc.

(a) **Expenses**. Each Obligor, jointly and severally, agrees to pay or reimburse promptly within receipt of a reasonably detailed invoice (i) the Administrative Agent and the Lenders and their respective Affiliates for all of their reasonable and documented out of pocket costs and expenses (including the reasonable and documented out of pocket fees, expenses, charges and disbursements of Cooley LLP, U.S. counsel to the Administrative Agent, Covington & Burling LLP, U.S. counsel to Catalio, the fees (if necessary) of one local counsel in any applicable jurisdiction and one regulatory counsel for each of the Administrative Agent and the Lenders and their respective Affiliates in each other relevant material jurisdiction, and any sales, goods and services or other similar Taxes applicable thereto (but only to the extent they are non-refundable), and reasonable and documented printing, reproduction, document delivery, communication and travel costs) in connection with (x) the negotiation, preparation, execution and delivery of this Agreement and the other Loan Documents and the making of the Loans, (y) post-closing costs (including costs of the administration of this Agreement and the other Loan Documents) and (z) the negotiation or preparation of any modification, supplement or waiver of any of the terms of this Agreement or any of the other Loan Documents (whether or not consummated); provided, that, in

the case of such expenses on the Closing Date, the amount of such expenses obligated to be paid by the Obligors shall be net of any amounts previously paid by the Borrower to the Administrative Agent or any Lender as a deposit against such fees, costs and expenses and (ii) each of the Administrative Agent and the Lenders for all of their reasonable and documented out of pocket costs and expenses (including the fees and expenses of reasonably necessary legal counsel) in connection with the enforcement, exercise or protection of their rights in connection with this Agreement and the other Loan Documents, including their rights under this **Section 14.03**, or in connection with the Loans made hereunder, including such reasonable and documented out-of-pocket expenses incurred during any workout, restructuring or negotiations in respect of such Loans and in connection with any enforcement or collection proceedings resulting from the occurrence of an Event of Default.

(b) **Indemnification**. Each Obligor, jointly and severally, hereby indemnifies the Administrative Agent (and any sub-agent thereof), the Lenders and their respective Affiliates, directors, officers, employees, attorneys, agents, advisors and controlling parties (each, an "***Indemnified Party***") from and against, and agrees to hold them harmless against, any and all Claims and Losses of any kind including reasonable and documented out of pocket fees and disbursements of any counsel for each Indemnified Party (limited to one legal counsel in each relevant jurisdiction), that may be incurred by or asserted or awarded against any Indemnified Party, in each case arising out of or in connection with or relating to (i) this Agreement or any of the other Loan Documents or the Transactions, (ii) any use made or proposed to be made with the proceeds of the Loans, (iii) any actual or alleged presence or release of Hazardous Materials on or from any property owned or operated by any Obligor or any of its Subsidiaries, or (iv) any actual or prospective claim, investigation, litigation or proceeding relating to any of the foregoing, whether based on contract, tort, or any other theory, whether or not such investigation, litigation or proceeding is brought by any Obligor, any of its Subsidiaries, shareholders or creditors, an Indemnified Party or any other Person, or an Indemnified Party is otherwise a party thereto, and whether or not any of the conditions precedent set forth in **Section 6** are satisfied or the other transactions contemplated by this Agreement are consummated, except to the extent such Claim or Loss is (i) found in a final, non-appealable judgment by a court of competent jurisdiction to have resulted from such Indemnified Party's gross negligence or willful misconduct or (ii) is determined by a court of competent jurisdiction by final and non-appealable judgment to have resulted from a claim brought by any Obligor against an Indemnified Party for material breach in bad faith or reckless disregard of such Indemnified Party's obligations hereunder or under any other Loan Document. No Obligor shall assert any claim against any Indemnified Party, on any theory of liability, for consequential, indirect, special or punitive damages arising out of or otherwise relating to this Agreement or any of the other Loan Documents or any of the Transactions or the actual or proposed use of the proceeds of the Loans. The Borrower, its Subsidiaries and Affiliates and their respective directors, officers, employees, attorneys, agents, advisors and controlling parties are each sometimes referred to in this Agreement as a "***Borrower Party***". None of the Administrative Agent and the Lenders shall assert any claim against any Borrower Party, on any theory of liability, for consequential, indirect, special or punitive damages arising out of or otherwise relating to this Agreement or any of the other Loan Documents or any of the Transactions or the actual or proposed use of the proceeds of the Loans. Notwithstanding the foregoing in this **Section 14.03(b)**, the Obligors shall not be liable for any settlement of any proceeding effected without the Obligors' consent (which consent shall not be unreasonably withheld, delayed or conditioned), but if settled with the Obligors' written consent, or if there is a judgment against an

Indemnified Party in any such proceeding, the Obligors shall indemnify and hold harmless each Indemnified Party to the extent and in the manner set forth above. The Obligors shall not, without the prior written consent of an Indemnified Party (which consent shall not be unreasonably withheld, conditioned or delayed), effect any settlement of any pending or threatened proceeding against such Indemnified Party in respect of which indemnity could have been sought hereunder by such Indemnified Party unless (a) such settlement includes an unconditional release of such Indemnified Party from all liability or claims that are the subject matter of, or arise out of, such proceeding and (b) such settlement does not include any statement as to, or any admission of fault, culpability, wrongdoing or a failure to act by or on behalf of such Indemnified Party. This Section shall not apply with respect to (x) Taxes other than Taxes arising from any non-Tax Claim or Loss governed by this **Section 14.03(a)** and (y) yield protection matters covered by **Section 5.01**, which shall be governed exclusively by **Section 5.01**.

14.04 Amendments, Etc. Except as otherwise expressly provided in this Agreement, any provision of this Agreement and any other Loan Document may be modified or supplemented only by an instrument in writing signed by the Borrower, the Administrative Agent and the Majority Lenders; provided that:

(a) any such modification or supplement that is disproportionately adverse to any Lender as compared to other Lenders or subjects any Lender to any additional obligation shall not be effective without the consent of such affected Lender;

(b) the consent of all of the Lenders shall be required to:

(i) amend, modify, discharge, terminate or waive any of the terms of this Agreement or any other Loan Document if such amendment, modification, discharge, termination or waiver would increase the amount of the Loans or Commitment, reduce the fees payable hereunder, reduce the principal amount of any Loan, reduce interest rates (provided that the Majority Lenders may rescind an imposition of default interest hereunder) or other amounts payable with respect to the Loans, extend any date fixed for payment of principal, interest or other amounts payable relating to the Loans or extend the repayment dates of the Loans; provided that a waiver of any condition precedent set forth in **Section 6.02** or of any Default or Event of Default is not considered an increase in Commitments of any Lender (it being understood that a Lender may elect to decline a mandatory prepayment to it pursuant to **Section 3.03(f)**, and such decision shall not be deemed to be a reduction of the Loans or other amounts payable, or extension of any date for payment or repayment of the Loans or other amounts payable, pursuant to this **Section 14.04(b)(i)**); or

(ii) amend this **Section 14.04**, the definition of "Majority Lenders", the definition of "Tranche C Availability Period" or the definition of "Tranche C Commitment", and

(c) the consent of each Lender directly and adversely affected thereby shall be required to:

(i) change **Section 4.01(b)** or **Section 4.03(a)** in a manner that would alter the pro rata sharing of payments required thereby; or

(ii) (x) subordinate, or have the effect of subordinating, the Obligations hereunder to any other Indebtedness, or (y) subordinate, or have the effect of subordinating, the Liens in favor of the Administrative Agent securing the Obligations to Liens securing any other Indebtedness (except as to the Liens expressly described in **Section 9.02(c)** or **(j)** securing Indebtedness expressly described under **Section 9.01(i)** or **(o)**, respectively (as such sections are in effect on the Closing Date plus an additional aggregate outstanding principal amount of $3,000,000)).

Notwithstanding anything to the contrary herein, (A) the Administrative Agent and the Borrower may amend or modify this Agreement and any other Loan Document to (1) cure any factual or typographical error, omission, defect or inconsistency therein, or (2) grant a new Lien for the benefit of the Lenders, extend an additional Lien over additional property for the benefit of the Lenders or join additional Persons as Obligors and (B) no Defaulting Lender shall have any right to approve or disapprove any amendment, waiver or consent hereunder (and any amendment, waiver or consent which by its terms requires the consent of all Lenders or each affected Lender may be effected with the consent of the applicable Lenders other than Defaulting Lenders), except that (x) the Commitment of any Defaulting Lender may not be increased or extended, or the maturity of any of its Loans may not be extended, the rate of interest on any of its Loans may not be reduced and the principal amount of any of its Loans may not be forgiven, in each case without the consent of such Defaulting Lender and (y) any waiver, amendment or modification requiring the consent of all Lenders or each affected Lender that by its terms affects any Defaulting Lender more adversely than other affected Lenders shall require the consent of such Defaulting Lender.

14.05 Successors and Assigns.

(a) **General**. The provisions of this Agreement and the other Loan Documents shall be binding upon and inure to the benefit of the parties hereto or thereto and their respective successors and assigns permitted hereby or thereby, except that no Obligor may assign or otherwise transfer any of its rights or obligations hereunder or under any of the other Loan Documents (except in connection with an event permitted under **Section 9.03**) without the prior written consent of the Administrative Agent and the Lenders. Any Lender may assign or otherwise transfer any of its rights or obligations hereunder or under any of the other Loan Documents (i) to an assignee in accordance with the provisions of **Section 14.05(b)**, (ii) by way of participation in accordance with the provisions of **Section 14.05(e)**, or (iii) by way of pledge or assignment of a security interest subject to the restrictions of **Section 14.05(f)**. Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto, their respective successors and assigns permitted hereby, Participants to the extent provided in **Section 14.05(e)** and, to the extent expressly contemplated hereby, the Indemnified Parties) any legal or equitable right, remedy or claim under or by reason of this Agreement.

(b) **Assignments by Lender**. Any Lender may at any time assign to one or more Eligible Transferees (or, if an Event of Default under **Section 11.01(a)** or **11.01(h)** has occurred and is continuing, or with the prior written consent of the Borrower in its sole and absolute discretion, to any Person that is not a Defaulting Lender) all or a portion of its rights and obligations under this Agreement (including all or a portion of the Loans at the time owing to it) and the other Loan Documents; provided that no such assignment shall be made to any Obligor, any Affiliate of any Obligor, any employees or directors of any Obligor at any time and no such assignment shall

be made without the prior written consent of the Administrative Agent (such consent not to be unreasonably withheld, conditioned or delayed) provided, further, that no consent of the Administrative Agent shall be required if such assignment is to any Affiliate of a Lender or such Lender's or Affiliate's managed funds or accounts. The consent of the Borrower (such consent not to be unreasonably withheld, conditioned or delayed) shall be required unless (x) an Event of Default has occurred and is continuing at the time of such assignment or (y) such assignment is to an Eligible Transferee described in **clause (vi)** of the definition thereof); provided that the Borrower shall be deemed to have consented to any such assignment unless it shall object thereto by written notice to the Administrative Agent within five (5) Business Days after having received written notice thereof. Subject to the recording thereof by the Administrative Agent pursuant to **Section 14.05(d)**, and to receipt by the Administrative Agent of a processing and recordation fee in the amount of $3,500 (provided that the Administrative Agent may, in its sole discretion, elect to waive such processing and recordation fee in the case of any assignment) from and after the date such Assignment and Assumption is recorded in the Register, the assignee thereunder shall be a party to this Agreement and, to the extent of the interest assigned by such Assignment and Assumption, have the rights and obligations of the Lender under this Agreement and the other Loan Documents, and correspondingly the assigning Lender shall, to the extent of the interest assigned by such Assignment and Assumption, be released from its obligations under this Agreement (and, in the case of an Assignment and Assumption covering all of the Lender's rights and obligations under this Agreement, such Lender shall cease to be a party hereto) and the other Loan Documents but shall continue to be entitled to the benefits of **Section 5** and **Section 14.03**. Any assignment or transfer by the Lender of rights or obligations under this Agreement that does not comply with this **Section 14.05(b)** shall be treated for purposes of this Agreement as a sale by such Lender of a participation in such rights and obligations in accordance with **Section 14.05(e)**. If an assignee is not a Lender, the assignee shall provide the Administrative Agent with all "know your customer" documents requested by the Administrative Agent pursuant to anti-money laundering rules and regulations.

(c) **Amendments to Loan Documents**. Each of the Administrative Agent, the Lenders and the Obligors agrees to enter into such amendments to the Loan Documents, and such additional Security Documents and other instruments and agreements, in each case in form and substance reasonably acceptable to the Administrative Agent, the Lenders and the Obligors, as shall reasonably be necessary to implement and give effect to any assignment made under this **Section 14.05**.

(d) **Register**. The Administrative Agent, acting solely for this purpose as a non-fiduciary agent of the Borrower, shall maintain at one of its offices in the United States a copy of each Assignment and Assumption delivered to it and a register for the recordation of the names and addresses of the Lenders, and the Commitments of, and principal amounts (and stated interest) of the Loans owing to, each Lender pursuant to the terms hereof from time to time (the "***Register***"). The entries in the Register shall be conclusive absent manifest error, and the Borrower, the Administrative Agent and the Lenders shall treat each Person whose name is recorded in the Register pursuant to the terms hereof as a Lender hereunder for all purposes of this Agreement. In addition, the Administrative Agent shall maintain on the Register information regarding the designation, and revocation of designation, of any Lender as a Defaulting Lender. The Register shall be available for inspection by the Borrower and any Lender, at any reasonable time and from time to time upon reasonable prior written notice. Notwithstanding anything to the contrary, any assignment of any Loan shall be effective only upon appropriate entries with respect thereto being made in the Register.

(e) **Participations**. Any Lender may at any time, without the consent of, or notice to, the Borrower, sell participations to any Person (other than a natural person, a Defaulting Lender, or any Obligor or any of its Affiliates or Subsidiaries) (each, a "***Participant***") in all or a portion of the Lender's rights and/or obligations under this Agreement (including all or a portion of the Commitment and/or the Loans owing to it); provided that (i) such Lender's obligations under this Agreement and the other Loan Documents shall remain unchanged, (ii) such Lender shall remain solely responsible to the other parties hereto for the performance of such obligations and (iii) the Borrower shall continue to deal solely and directly with such Lender in connection therewith. Any agreement or instrument pursuant to which any Lender sells such a participation shall provide that such Lender shall retain the sole right to enforce the Loan Documents and to approve any amendment, modification or waiver of any provision of the Loan Documents; provided that such agreement or instrument may provide that such Lender shall not, without the consent of the Participant, agree to any amendment, modification or waiver that would (i) increase or extend the term of such Lender's Commitment (it being understood and agreed that a waiver of any condition precedent set forth in **Section 6.02** or of any Default or Event of Default or a mandatory reduction in Commitments is not considered an increase of any Commitment), (ii) extend the date fixed for the payment of principal (excluding mandatory prepayments) of or interest on the Loans or any portion of any fee hereunder payable to the Participant, (iii) reduce the amount of any such payment of principal, or (iv) reduce the rate at which interest is payable thereon to a level below the rate at which the Participant is entitled to receive such interest (other than a waiver of default interest). Subject to **Section 14.05(f)**, the Borrower agrees that each Participant shall be entitled to the benefits of **Section 5.01** or **5.03** (subject to the requirements and limitations therein, including the requirements under **Section 5.03(f)** (it being understood that the documentation required under **Section 5.03(f)** shall be delivered to the participating Lender)) to the same extent as if it were a Lender and had acquired its interest by assignment pursuant to **Section 14.05(b)**; provided that such Participant (i) shall not be entitled to such benefits unless such Participant agrees, for the benefit of the Borrower, to comply with the documentation requirements of **Section 5.03(e)(ii)** as if it were a Lender and complies with such requirements and (ii) agrees to be subject to the provisions of **Section 5.04** as if it were an assignee under **Section 14.05(b)**. To the extent permitted by Law, each Participant also shall be entitled to the benefits of **Section 4.03(a)** as though it were a Lender. Each Lender that sells a participation shall, acting solely for this purpose as a non-fiduciary agent of the Borrower, maintain a register on which it enters the name and address of each Participant and the principal amounts (and stated interest) of each Participant's interest in the Loans or other obligations under the Loan Documents (the "***Participant Register***"); provided that no Lender shall have any obligation to disclose all or any portion of the Participant Register (including the identity of any Participant or any information relating to a Participant's interest in any commitments, loans or its other obligations under any Loan Document) to any Person except to the extent that such disclosure is necessary to establish that such commitment, loan or other obligation is in registered form under Section 5f.103-1(c) or Proposed Section 1.163-5(b) (or, in each case, any amended or successor sections) of the United States Treasury Regulations. The entries in the Participant Register shall be conclusive absent manifest error, and such Lender shall treat each Person whose name is recorded in the Participant Register as the owner of such participation for all purposes of this Agreement notwithstanding any notice to the contrary. For the avoidance of doubt, the Administrative Agent (in its capacity as Administrative Agent) shall have no responsibility for maintaining a Participant Register.

(f) **Limitations on Rights of Participants**. A Participant shall not be entitled to receive any greater payment under **Section 5.01** or **5.03** than such Lender would have been entitled to receive with respect to the participation sold to such Participant, except to the extent such entitlement to receive a greater payment results from a change in Law that occurs after the Participant acquired the applicable participation or the sale of the participation to such Participant is made with the Borrower's prior written consent.

(g) **Certain Pledges**. Any Lender may at any time pledge or assign a security interest in all or any portion of its rights under the Loan Documents to secure obligations of such Lender, including any pledge or assignment to secure obligations to a Federal Reserve Bank; provided that no such pledge or assignment shall release such Lender from any of its obligations hereunder or substitute any such pledgee or assignee for such Lender as a party hereto.

(h) **Certain Additional Payments**. In connection with any assignment of rights and obligations of any Defaulting Lender hereunder, no such assignment shall be effective unless and until, in addition to the other conditions thereto set forth herein, the parties to the assignment shall make such additional payments, at the election of the Administrative Agent, to the Administrative Agent or any applicable Lender in an aggregate amount sufficient, upon distribution thereof as appropriate (which may be outright payment, purchases by the assignee of participations or subparticipations, or other compensating actions, including funding, with the consent of the Borrower and the Administrative Agent, the applicable Proportionate Share of Loans previously requested but not funded by the Defaulting Lender, to each of which the applicable assignee and assignor hereby irrevocably consent), to (x) pay and satisfy in full all payment liabilities then owed by such Defaulting Lender to the Administrative Agent or any Lender hereunder (and interest accrued thereon) and (y) acquire (and fund as appropriate) its full Proportionate Share of all Loans. Notwithstanding the foregoing, in the event that any assignment of rights and obligations of any Defaulting Lender hereunder shall become effective under Applicable Law without compliance with the provisions of this paragraph, then the assignee of such interest shall be deemed to be a Defaulting Lender for all purposes of this Agreement until such compliance occurs.

14.06 Survival. The obligations of the Borrower under **Sections 5.01**, **5.03**, **14.03**, **14.05**, **14.06**, **14.09**, **14.10**, **14.11**, **14.12**, **14.13** and **14.14** and the obligations of the Subsidiary Guarantors under **Section 13** (solely to the extent guaranteeing any of the obligations under the foregoing Sections) shall survive the repayment of the Obligations and the termination of the Commitments and, in the case of the Lenders' assignment of any interest in the Commitments or the Loans hereunder, shall survive, in the case of any event or circumstance that occurred prior to the effective date of such assignment, the making of such assignment, notwithstanding that the Lenders may cease to be "Lenders" hereunder. In addition, each representation and warranty made, or deemed to be made by a Borrowing Notice, herein or pursuant hereto shall survive the making of such representation and warranty.

14.07 Captions. The table of contents and captions and section headings appearing herein are included solely for convenience of reference and are not intended to affect the interpretation of any provision of this Agreement.

14.08 Counterparts, Effectiveness. This Agreement may be executed in any number of counterparts (including electronic imaging means), all of which taken together shall constitute one and the same instrument and any of the parties hereto may execute this Agreement by signing any such counterpart. Delivery of an executed signature page of this Agreement by electronic transmission (e.g., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart hereof. The words "execution," "execute", "signed," "signature," and words of like import in or related to any document to be signed in connection with this Agreement and the other Loan Documents and the transactions contemplated hereby and thereby shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable Law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

14.09 Governing Law. This Agreement and the rights and obligations of the parties hereunder shall be governed by, and construed in accordance with, the law of the State of New York, without regard to principles of conflicts of laws that would result in the application of the laws of any other jurisdiction; provided that Section 5-1401 of the New York General Obligations Law shall apply.

14.10 Jurisdiction, Service of Process and Venue.

(a) **Submission to Jurisdiction**. Each party hereby irrevocably and unconditionally agrees that it shall not commence any action, litigation or proceeding of any kind or description, whether in law or equity, whether in contract or tort or otherwise, against such other party in any way relating to this Agreement or any Loan Document or the transactions relating hereto or thereto, in any forum other than the United States District Court for the Southern District of New York sitting in the Borough of Manhattan (or if such court lacks subject matter jurisdiction, the Supreme Court of the State of New York sitting in the Borough of Manhattan), and any appellate court from any thereof, and each of the parties hereto irrevocably and unconditionally submits to the exclusive jurisdiction of such courts and agrees that all claims in respect of any such action, litigation or proceeding may be heard and determined in such New York State court or, to the fullest extent permitted by applicable Law, in such federal court. Each of the parties hereto agrees that a final judgment in any such action, litigation or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(b) **Waiver of Venue, Etc.** Each party hereto irrevocably waives to the fullest extent permitted by law any objection that it may now or hereafter have to the laying of the venue of any suit, action or proceeding arising out of or relating to this Agreement or any other Loan Document in any court referred to in **Section 14.10(a)** and hereby further irrevocably waives to the fullest extent permitted by law any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. A final judgment (in respect of which time for all appeals has elapsed) in any such suit, action or proceeding shall be conclusive and may be enforced in any court to the jurisdiction of which such party is or may be subject, by suit upon judgment.

14.11 Waiver of Jury Trial. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE OTHER LOAN DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY.

14.12 Waiver of Immunity. To the extent that any Obligor may be or become entitled to claim for itself or its property or revenues any immunity on the ground of sovereignty or the like from suit, court jurisdiction, attachment prior to judgment, attachment in aid of execution of a judgment or execution of a judgment, and to the extent that in any such jurisdiction there may be attributed such an immunity (whether or not claimed), such Obligor hereby irrevocably agrees not to claim and hereby irrevocably waives such immunity with respect to its obligations under this Agreement and the other Loan Documents.

14.13 Entire Agreement. This Agreement and the other Loan Documents constitute the entire agreement among the parties with respect to the subject matter hereof and thereof and supersede any and all previous agreements and understandings, oral or written, relating to the subject matter hereof, including any confidentiality (or similar) agreements. EACH OBLIGOR ACKNOWLEDGES, REPRESENTS AND WARRANTS THAT IN DECIDING TO ENTER INTO THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS OR IN TAKING OR NOT TAKING ANY ACTION HEREUNDER OR THEREUNDER, IT HAS NOT RELIED, AND WILL NOT RELY, ON ANY STATEMENT, REPRESENTATION, WARRANTY, COVENANT, AGREEMENT OR UNDERSTANDING, WHETHER WRITTEN OR ORAL, OF OR WITH ADMINISTRATIVE AGENT OR THE LENDERS OTHER THAN THOSE EXPRESSLY SET FORTH IN THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS.

14.14 Severability. If any provision hereof is found by a court to be invalid or unenforceable, to the fullest extent permitted by any Law the parties agree that such invalidity or unenforceability shall not impair the validity or enforceability of any other provision hereof. Without limiting the foregoing provisions of this **Section 14.14**, if and to the extent that the enforceability of any provisions in this Agreement relating to Defaulting Lenders shall be limited by the Bankruptcy Code, or any other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, examinership, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief Laws of the United States or other applicable jurisdictions from time to time in effect, as determined in good faith by the Administrative Agent, then such provisions shall be deemed to be in effect only to the extent not so limited.

14.15 No Fiduciary Relationship. The Borrower acknowledges that the Administrative Agent and the Lenders have no fiduciary relationship with, or fiduciary duty to, the Borrower arising out of or in connection with this Agreement or the other Loan Documents, and the relationship between the Lenders and the Borrower is solely that of creditor and debtor. This Agreement and the other Loan Documents do not create a joint venture among the parties.

14.16 Confidentiality. The Administrative Agent and each Lender agree to keep confidential, and not disclose to any Person all non-public information provided to them by or on behalf of any Obligor pursuant to this Agreement; provided that nothing herein shall prevent the Administrative Agent or any Lender from disclosing any such information (i) to the Administrative

Agent, any other Lender, any Affiliate of a Lender or subject to an agreement to comply with the provisions of this Section, any Eligible Transferee permitted under **Section 14.05(b)**, (ii) subject to an agreement to comply with the provisions of this Section, to any actual or prospective direct or indirect counterparty to any Hedging Agreement (or any professional advisor to such counterparty), (iii) to its employees, officers, directors, agents, attorneys, accountants, trustees and other professional advisors or those of any of its affiliates (collectively, its "***Related Parties***") (it being understood that the Persons to whom such disclosure is made will be informed of the confidential nature of such information and instructed to keep such information confidential), (iv) upon the request or demand of any Governmental Authority or any Regulatory Authority purporting to have jurisdiction over such Person or its Related Parties (including any self-regulatory authority, such as the National Association of Insurance Commissioners), (v) in response to any order of any court or other Governmental Authority or as may otherwise be required pursuant to any Law, (vi) if requested or required to do so in connection with any litigation or similar proceeding, (vii) that has been publicly disclosed (other than as a result of a disclosure in violation of this **Section 14.16**), (viii) to the National Association of Insurance Commissioners or any similar organization or any nationally recognized rating agency that requires access to information about a Lender's investment portfolio in connection with ratings issued with respect to such Lender, (ix) in connection with the exercise of any remedy hereunder or under any other Loan Document, (x) on a confidential basis to (A) any rating agency in connection with rating the Borrower or its Subsidiaries or the Loans or (B) the CUSIP Service Bureau or any similar agency in connection with the issuance and monitoring of CUSIP numbers of other market identifiers with respect to the Loans or (xi) to any other party hereto; provided that, in the case of disclosure pursuant to **clause (iv)**, **(v)** and **(vi)** above, the Administrative Agent or applicable Lender, as applicable, shall promptly provide notice to the Borrower to the extent reasonable and not prohibited by Law or any applicable Governmental Authority. No Obligor, nor any Lender, nor any of their respective Affiliates, shall, nor shall any Obligor or Lender or any of their respective Affiliates permit their respective directors, officers, employees, agents or other professional advisors to, without prior written approval by Symbiotic or Catalio, as applicable, include Symbiotic, Catalio or any of their respective Affiliates or any of their or their Affiliates' Related Parties in advertising, marketing, social media, tombstones, case studies or training materials, or give any other publicity to this Agreement or the identity of Symbiotic, Catalio or any of their respective Affiliates as a Lender or the Administrative Agent or the identity of any of their or their Affiliates' Related Parties (a "***Public Announcement***"); provided that nothing herein shall prevent any Obligor or Lender, or any of their respective Affiliates, as applicable, from (1) making disclosures to the extent required by applicable law, regulation, legal process or the rules of the Securities and Exchange Commission, or (2) issuing a press release on or after the Closing Date, provided that (a) the Administrative Agent has approved in its sole discretion any provision therein that refers to Administrative Agent or any of its Affiliates or any of its or its Affiliates' Related Parties or its business generally, and (b) a draft of any such press release shall be shared with the Lenders prior to the issuance thereof, and each Lender has approved of the provisions therein in such Lender's sole discretion.

14.17 Interest Rate Limitation. Notwithstanding anything herein to the contrary, if at any time the interest rate applicable to any Loan, together with all fees, charges and other amounts that are treated as interest on such Loan under applicable Law (collectively, "***charges***"), shall exceed the maximum lawful rate (the "***Maximum Rate***") that may be contracted for, charged, taken, received or reserved by the Administrative Agent and the Lender holding such Loan in

accordance with applicable Law, the rate of interest payable in respect of such Loan hereunder, together with all charges payable in respect thereof, shall be limited to the Maximum Rate. To the extent lawful, the interest and charges that would have been paid in respect of such Loan but were not paid as a result of the operation of this Section shall be cumulated and the interest and charges payable to such Lender in respect of other Loans or periods shall be increased (but not above the amount collectible at the Maximum Rate therefor) until such cumulated amount, together with interest thereon at the Federal Funds Effective Rate for each day to the date of repayment, shall have been received by such Lender. Any amount collected by such Lender that exceeds the maximum amount collectible at the Maximum Rate shall be applied to the reduction of the principal balance of such Loan so that at no time shall the interest and charges paid or payable in respect of such Loan exceed the maximum amount collectible at the Maximum Rate.

14.18 Judgment Currency.

(a) If, for the purposes of obtaining judgment in any court, it is necessary to convert a sum due hereunder in Dollars into another currency, the parties hereto agree, to the fullest extent permitted by Law, that the rate of exchange used shall be that at which, in accordance with normal banking procedures, the Administrative Agent could purchase Dollars with such other currency at the buying spot rate of exchange in the New York foreign exchange market on the Business Day immediately preceding that on which any such judgment, or any relevant part thereof, is given.

(b) The obligations of the Obligors in respect of any sum due to the Administrative Agent hereunder and under the other Loan Documents shall, notwithstanding any judgment in a currency other than Dollars, be discharged only to the extent that on the Business Day following receipt by the Administrative Agent of any sum adjudged to be so due in such other currency the Administrative Agent may, in accordance with normal banking procedures, purchase Dollars with such other currency. If the amount of Dollars so purchased is less than the sum originally due to the Administrative Agent in Dollars, the Borrower agrees, to the fullest extent that it may effectively do so, as a separate obligation and notwithstanding any such judgment, to indemnify the Administrative Agent against such loss. If the amount of Dollars so purchased exceeds the sum originally due to the Administrative Agent in Dollars, the Administrative Agent shall remit such excess to the Borrower.

14.19 USA PATRIOT Act. The Administrative Agent and the Lenders hereby notify the Obligors that pursuant to the requirements of the USA PATRIOT Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)) (the "***Patriot Act***"), they are required to obtain, verify and record information that identifies the Obligors, which information includes the name and address of each Obligor and other information that will allow such Person to identify such Obligor in accordance with the Patriot Act.

14.20 Acknowledgement and Consent to Bail-In of Affected Financial Institutions. Notwithstanding anything to the contrary in any Loan Document or in any other agreement, arrangement or understanding among any such parties, each party hereto acknowledges that any liability of any Affected Financial Institution arising under any Loan Document, to the extent such liability is unsecured, may be subject to the Write-Down and Conversion Powers of the applicable Resolution Authority and agrees and consents to, and acknowledges and agrees to be bound by:

(a) the application of any Write-Down and Conversion Powers by the applicable Resolution Authority to any such liabilities arising hereunder which may be payable to it by any party hereto that is an Affected Financial Institution; and

(b) the effects of any Bail-In Action on any such liability, including, if applicable:

(i) a reduction in full or in part or cancellation of any such liability;

(ii) a conversion of all, or a portion of, such liability into shares or other instruments of ownership in such Affected Financial Institution, its parent undertaking, or a bridge institution that may be issued to it or otherwise conferred on it, and that such shares or other instruments of ownership will be accepted by it in lieu of any rights with respect to any such liability under this Agreement or any other Loan Document; or

(iii) the variation of the terms of such liability in connection with the exercise of the Write-Down and Conversion Powers of any the applicable Resolution Authority.

14.21 Certain ERISA Matters.

(a) Each Person that becomes party hereto after the date hereof as a Lender (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent and its Affiliates, and not, for the avoidance of doubt, to or for the benefit of the Borrower or Guarantors, that at least one of the following is and will be true:

(i) such Lender is not using "plan assets" (within the meaning of Section 3(42) of ERISA or otherwise for purposes of Title I of ERISA or Section 4975 of the Code) of one or more Employee Benefit Plans with respect to such Lender's entrance into, participation in, administration of and performance of the Loans, the Notes or this Agreement;

(ii) the transaction exemption set forth in one or more PTEs, such as PTE 84-14 (a class exemption for certain transactions determined by independent qualified professional asset managers), PTE 95-60 (a class exemption for certain transactions involving insurance company general accounts), PTE 90-1 (a class exemption for certain transactions involving insurance company pooled separate accounts), PTE 91-38 (a class exemption for certain transactions involving bank collective investment funds) or PTE 96-23 (a class exemption for certain transactions determined by in-house asset managers), is applicable with respect to such Lender's entrance into, participation in, administration of and performance of the Loans, the Notes and this Agreement;

(iii) (A) such Lender is an investment fund managed by a "Qualified Professional Asset Manager" (within the meaning of Part VI of PTE 84-14), (B) such Qualified Professional Asset Manager made the investment decision on behalf of such Lender to enter into, participate in, administer and perform the Loans, the Notes and this Agreement, (C) the entrance into, participation in, administration of and performance of the Loans, the Notes and this Agreement satisfies the requirements of sub-sections (b) through (g) of Part I of PTE 84-14 and (D) to the best knowledge of such Lender, the requirements of subsection (a) of Part I of PTE 84-14 are satisfied with respect to such Lender's entrance into, participation in, administration of and performance of the Loans, the Notes and this Agreement; or

(iv) such other representation, warranty and covenant as may be agreed in writing between the Administrative Agent, in its sole discretion, and such Lender.

In addition, unless either (1) **sub-clause (i)** in the immediately preceding **clause (a)** is true with respect to a Lender making the representation in **clause (a)** or (2) a Lender making the representation in **clause (a)** has provided another representation, warranty and covenant in accordance with **sub-clause (iv)** in the immediately preceding **clause (a)**, such Lender further (x) represents and warrants, as of the date such Person became a Lender party hereto, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent and its Affiliates, and not, for the avoidance of doubt, to or for the benefit of the Borrower, that none of the Administrative Agent or its Affiliates is a fiduciary with respect to the assets of such Lender involved in such Lender's entrance into, participation in, administration of and performance of the Loans, the Notes and this Agreement (including in connection with the reservation or exercise of any rights by the Administrative Agent under this Agreement, any other Loan Documents or any documents related hereto or thereto).

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered as of the day and year first above written.

BORROWER:

FRACTYL HEALTH, INC.

By: /s/ Lisa Davidson
Name: Lisa Davidson
Title: Chief Financial Officer and Treasurer

Address for Notices:

17 Hartwell Ave
Lexington, MA 02421
Attn: General Counsel
Phone:
Email:

With copies to:

Latham & Watkins LLP
200 Clarendon Street
Boston, MA 02116
Attn: Evan G. Smith
Phone:
Email:

ADMINISTRATIVE AGENT:

SYMBIOTIC CAPITAL AGENCY LLC

By: /s/ Himani Bhalla
Name: Himani Bhalla
Title: Authorized Signatory

Address for Notices:

Symbiotic Capital Agency LLC, as
Administrative Agent
Attn: Himani Bhalla
Email:

LENDER:

SYMBIOTIC CAPITAL OPPORTUNITIES HOLDING, L.P.

By: /s/ Himani Bhalla
Name: Himani Bhalla
Title: Authorized Signatory

Address for Notices:

Symbiotic Capital Agency LLC, as
Administrative Agent
Attn: Himani Bhalla
Email:

LENDER:

CATALIO STRUCTURED OPPORTUNITIES AIV I LP

By: CATALIO STRUCTURED OPPORTUNITIES FUND 1 GP LLC, its general partner

By: /s/ John Henry Lucker
Name: John Henry Lucker
Title: Partner

Address for Notices:

Catalio Structured Opportunities AIV I LP
512 W 22nd St, 5th Floor
New York, NY 10011
Attn: Credit Notices
Email:

With copies to:

Covington & Burling LLP
One CityCenter
850 Tenth Street, NW
Washington, DC 20001-4956
Attn: Brent Little
Phone:
Email:

Schedule 1

Loans Schedule

Tranche A Term Loans

Lenders and their respective Applicable Commitments:

Lender	Applicable Commitment
Symbiotic Capital Opportunities Holding, L.P.	$ 25,000,000
Catalio Structured Opportunities AIV I LP	$ 5,000,000
Tranche A Commitment	**$ 30,000,000**

The following defined terms apply to the Tranche A Term Loans:

"***Tranche A Funding Condition***" means that that a Borrowing Notice with respect to the Tranche A Term Loans shall have been received by the Administrative Agent.

Tranche B Term Loans

Lenders and their respective Applicable Commitments:

Lender	Applicable Commitment
Symbiotic Capital Opportunities Holding, L.P.	$ 12,500,000
Catalio Structured Opportunities AIV I LP	$ 2,500,000
Tranche B Commitment	**$ 15,000,000**

The following defined terms apply to the Tranche B Term Loans:

"***Tranche B Availability Period***" means the period starting on the first Business Day following receipt by the Administrative Agent of the Tranche B Condition Certificate and ending on the applicable Commitment Termination Date.

"***Tranche B Condition Certificate***" means a certificate signed by a Responsible Officer of the Borrower certifying that the Tranche B Funding Milestone has occurred.

"***Tranche B Funding Condition***" means that the Administrative Agent and the Lenders shall have received the Tranche B Condition Certificate certifying that Tranche B Funding Milestone has occurred.

"***Tranche B Funding Milestone***" means (a) at least four hundred twenty (420) patients have been enrolled in the Revitalize-1 registration trial, and (b) the Borrower has consummated a Qualified IPO on or prior to July 31, 2024.

Tranche C Term Loans

Lenders and their respective Tranche C Amounts:

Lender	Applicable Amount
Symbiotic Capital Opportunities Holding, L.P.	$ 16,666,667
Catalio Structured Opportunities AIV I LP	$ 3,333,333
Tranche C Amount	**$ 20,000,000**

The following defined terms apply to the Tranche C Term Loans:

"***Tranche C Availability Period***" means, as to any Lender, the period (a) starting on the first Business Day following receipt by (i) the Administrative Agent and the Borrower of such Lender's written notice committing to provide a Tranche C Commitment in accordance with this Agreement and (ii) the Borrower and such Lender of the Administrative Agent's approval in its sole discretion; provided that the date of the foregoing receipts shall be on or prior to June 30, 2025, and (b) ending on the day immediately prior to the Maturity Date.

Schedule 2

Products

- **Revita®:**

  Fractyl Health's lead product candidate, Revita®, is based on the company's insights surrounding the potential role of the gut in metabolic diseases. Revita is designed to remodel the duodenal lining via hydrothermal ablation (i.e., duodenal mucosal resurfacing) to edit abnormal intestinal nutrient sensing and signaling mechanisms that are a potential root cause of metabolic diseases. Revita has received a CE mark in Europe and, in January 2022, received reimbursement authorization through NUB in Germany. In the United States, Revita is for investigational use only under US law and has received Breakthrough Device Designation from the FDA to improve glycemic control and eliminate insulin needs in T2D patients who are inadequately controlled on long-acting insulin. A pivotal study of Revita in patients with inadequately controlled Type 2 Diabetes despite multiple medicines and insulin, called Revitalize 1, is currently enrolling in the United States and Europe.

  The Revita Duodenal Mucosal Resurfacing System (Revita System) minimally invasive catheter-based system for submucosal lift and hydro thermal mucosal ablation of the duodenum to alter the proximal intestinal mucosal hormonal signaling that mediates insulin resistance. Duodenal mucosal resurfacing (DMR) is achieved via trans-oral delivery of a balloon catheter in conjunction with direct endoscopic visualization. The Revita System comprises the following four components:

  - Catheter (sterile, single-use)
  - Line set (sterile, single-use)
  - Umbilical (non-sterile, re-usable, replaceable)
  - Console (non-sterile, re-usable, serviceable)

  The Revita Console is designed with both a user interface, which guides the user through the procedure and is equipped with redundant sensoring to ensure safe operation and user notification. The Revita Console provides injectate to the Catheter via the Line Set, while the hot fluid ablation cycle is provided to the catheter via the Umbilical. The system has been tested and validated to the highest standards for safety, performance and compliance, which is reflected in the current CE Mark in the EU and IDE approval in the US.

- **Rejuva®:**

  Fractyl Health's Rejuva® platform focuses on developing next-generation adeno-associated virus (AAV)-based, locally delivered gene therapies for the treatment of T2D and other metabolic diseases. The Rejuva platform is in preclinical development and has not yet been evaluated by regulatory agencies for investigational or commercial use. Rejuva leverages advanced delivery systems and proprietary screening methods to identify and develop metabolically active gene therapy candidates targeting the pancreas. The program aims to transform the management of metabolic diseases by offering novel, disease-modifying therapies that address the underlying root causes of disease.

Schedule 7.05

Certain Intellectual Property

7.05(b)(i)

None.

7.05(b)(ii)

None.

7.05(b)(iii)

None.

7.05(b)(iv)

None.

Schedule 7.06(a)

Litigation

None.

Schedule 7.06(c)

Collective Bargaining Agreements

None.

Schedule 7.08

Taxes

None.

Schedule 7.12

Information Regarding Subsidiaries

Name of Subsidiary	Jurisdiction of Organization	Parent	Equity Ownership by Parent
Fractyl Securities Corporation	Massachusetts	Fractyl Health, Inc.	100%
Fractyl Laboratories LTD.	England & Wales	Fractyl Health, Inc.	100%

Schedule 7.13

Material Agreements

None.

Schedule 7.14

Restrictive Agreements

None.

Schedule 7.15

Real Property Owned or Leased by Obligors

Leased/Owned Property Address	Lease/Owned	Lessor

Schedule 7.16

Pension Matters

None.

Schedule 7.17(c)

Adverse Findings

None.

Schedule 7.22

Royalties and Other Payments

None.

Schedule 9.01

Existing Indebtedness

- 2023 Financing Amended and Restated Convertible Promissory Note issued by Fractyl Health, Inc. to CVF, LLC, in the principal amount of $10,449,589.04
- 2023 Financing Amended and Restated Convertible Promissory Note issued by Fractyl Health, Inc. to Maverick Growth Fund, L.P., in the principal amount of $5,224,794.52
- 2023 Financing Amended and Restated Convertible Promissory Note issued by Fractyl Health, Inc. to Maverick Designated Investments Fund, L.P., in the principal amount of $5,224,794.52
- Equipment financing with De Lage Landen Financial Services, Inc., in connection with a 3D printer (the "***3D Printer Financing***")
- Equipment financing with CIT Bank, N.A. in connection with copy and printer equipment (the "***Copy and Printer Financing***")
- Letter of Credit issued by Silicon Valley Bank in favor of 3 VDG JV LLC, c/o Jumbo Capital Incorporated in connection with the Burlington, MA lease (the "***SVB LC***")
- Letter of Credit issued by JPMorgan in favor of BP 17 Hartwell LLC C/O Boston Properties, Inc., in connection with the Lexington, MA lease (the "***JPM LC***")

Schedule 9.02

Existing Liens

- Lien in connection with the 3D Printer Financing
- Lien in connection with the Copy and Printer Financing
- Lien on collateral account in connection with the SVB LC
- Lien on collateral account in connection with the JPM LC

Schedule 9.05(a)

Existing Investments

- **Schedule 7.12** is incorporated herein by reference.

Schedule 9.09

Sale of Assets

None.

Schedule 9.10

Transactions with Affiliates

None.

Schedule 9.14

Existing Sales and Leasebacks

None.

EXHIBIT A

FORM OF NOTE

THIS NOTE HAS BEEN ISSUED WITH ORIGINAL ISSUE DISCOUNT FOR UNITED STATES FEDERAL INCOME TAX PURPOSES. FOR INFORMATION REGARDING THE ISSUE PRICE, THE TOTAL AMOUNT OF ORIGINAL ISSUE DISCOUNT, THE ISSUE DATE, AND THE YIELD TO MATURITY WITH RESPECT TO THIS NOTE, PLEASE CONTACT THE BORROWER AT 17 HARTWELL AVE; LEXINGTON, MA 02421; ATTN: GENERAL COUNSEL OR VIA EMAIL AT STOOMEY@FRACTYL.COM WITH A COPY TO LATHAM & WATKINS LLP; 200 CLARENDON STREET; BOSTON, MA 02116; ATTN: EVAN G. SMITH OR VIA EMAIL AT EVAN.SMITH@LW.COM.

TRANCHE [A][B][C] TERM LOAN NOTE

U.S. $[•] [•], 20[•]

FOR VALUE RECEIVED, the undersigned, FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), hereby promises to pay to [LENDER] (the "***Lender***"), in immediately available funds, the aggregate principal sum set forth above, or, if less, the aggregate unpaid principal amount of the Tranche [A][B][C] Term Loan (the "***Loan***") made by the Lender pursuant to **Section 2.01** of the Credit Agreement and Guaranty, dated as of September 7, 2023, among the Borrower, the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, in its capacity as administrative agent for the Lenders (in such capacity, together with its successors and permitted assigns, the "***Administrative Agent***") (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), on the dates and at the times set forth in the Credit Agreement. Capitalized terms used in this Note and not otherwise defined herein shall have the meanings attributable to such terms in the Credit Agreement.

The Borrower also promises to pay interest on the unpaid principal amount of the Loan on the dates and at the rate or rates provided for in the Credit Agreement. All payments of principal and interest shall be made in lawful money of the United States in immediately available funds to the Lender at such place and to such account or accounts as the Administrative Agent may direct from time to time by notice to the Borrower in accordance with the Credit Agreement, on the date or dates and times specified in the Credit Agreement.

This Note is one of the Notes referred to in and is issued pursuant to the terms of the Credit Agreement, and this Note and the holder hereof are entitled to all the benefits and security provided for thereby or referred to therein. Reference is hereby made to the Credit Agreement for a statement of the terms and conditions governing this Note, including those related to voluntary and mandatory prepayment of this Note and acceleration of the maturity hereof upon the happening of certain stated events.

This Note is secured, on a parity basis with the other Notes, by the Security Documents. Reference is hereby made to the Security Documents for a description of the collateral thereby mortgaged, warranted, conveyed, assigned, transferred, pledged and hypothecated, the nature and extent of the security for this Note and the rights of the holder of this Note and the Administrative Agent in respect of such security and otherwise.

THIS NOTE AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAWS THAT WOULD RESULT IN THE APPLICATION OF THE LAWS OF ANY OTHER JURISDICTION; PROVIDED THAT SECTION 5-1401 OF THE NEW YORK GENERAL OBLIGATIONS LAW SHALL APPLY.

The Borrower hereby waives demand, presentment, protest or notice of any kind hereunder, other than notices provided for in the Loan Documents. The non-exercise by the holder hereof of any of its rights hereunder in any particular instance shall not constitute a waiver thereof in such particular or any subsequent instance.

THIS NOTE MAY NOT BE TRANSFERRED EXCEPT IN COMPLIANCE WITH THE TERMS OF THE CREDIT AGREEMENT.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Borrower has duly executed and delivered this Note as of the day and year first above written.

FRACTYL HEALTH, INC.

By _____
Name:
Title:

EXHIBIT A-3

EXHIBIT B

FORM OF BORROWING NOTICE

Date: [•]

To: [•]

Copies to: [•]

Re: Borrowing under the Credit Agreement

Ladies and Gentlemen:

The undersigned, FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), refers to the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among the Borrower, the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, together with its successors and permitted assigns, the "***Administrative Agent***"). Capitalized terms used herein and not otherwise defined herein are used herein as defined in the Credit Agreement.

The Borrower hereby gives you irrevocable notice, pursuant to **Section 2.02** of the Credit Agreement, of the Tranche [A][B][C] Borrowing of the Loan specified herein:

1. The [date of the Borrowing][1][Applicable Funding Date][2] is [•].[3]

2. The proposed Borrowings shall constitute Tranche [A][B][C] Term Loans.

3. The amount of the proposed Borrowing is $[ ].

4. The payment instructions with respect to the funds to be made available to the Borrower are as follows:

   Bank name: [•]
   Bank Address: [•]
   Routing Number: [•]
   Account Number: [•]

---

1 Use this language for the initial Borrowing of the Tranche A Term Loans on the Closing Date. Must be a Business Day.

2 Use this language for a Borrowing of Tranche B or Tranche C Term Loans after the Closing Date. Must be a Business Day.

3 Pursuant to **Section 2.02** of the Credit Agreement, this Borrowing Notice must be delivered to the Administrative Agent prior to 12:00 P.M. (Pacific Time) at least ten (10) Business Days (or such shorter period agreed by the Administrative Agent) prior to the Closing Date for a Borrowing of Tranche A Term Loans occurring on the Closing Date, or 12:00 P.M (Pacific Time) at least ten (10) Business Days prior to any Applicable Funding Date (or, in each case, such shorter period agreed by the Administrative Agent).

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Borrower has caused this Borrowing Notice to be duly executed and delivered as of the day and year first above written.

BORROWER:

FRACTYL HEALTH, INC.

By _____
Name:
Title:

EXHIBIT B-2

EXHIBIT C

FORM OF GUARANTEE ASSUMPTION AGREEMENT

GUARANTEE ASSUMPTION AGREEMENT dated as of [DATE] (this "***Agreement***") by [NAME OF ADDITIONAL SUBSIDIARY GUARANTOR], a [***Insert****: corporation, limited partnership, limited liability company, etc.*] (the "***Additional Subsidiary Guarantor***"), under that certain Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, each lender from time to time party thereto (each a "***Lender***" and collectively, the "***Lenders***") and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

PRELIMINARY STATEMENTS

WHEREAS, pursuant to the Credit Agreement, the Lenders agreed to make an extension of credit to the Borrower upon the terms and conditions set forth in the Credit Agreement;

WHEREAS, **Section 8.12** of the Credit Agreement provides that any new Domestic Subsidiary of the Borrower (other than any MSC Subsidiary) shall become a Subsidiary Guarantor under the Credit Agreement by execution and delivery of an instrument in the form of this Agreement; and

WHEREAS, the undersigned Additional Subsidiary Guarantor is executing this Agreement in accordance with the requirements of the Credit Agreement to become a Subsidiary Guarantor as consideration for Loans previously made pursuant to **Section 2.01** of the Credit Agreement;

NOW, THEREFORE, the Additional Subsidiary Guarantor agrees as follows:

Section 1. Capitalized Terms. Capitalized terms used herein and not otherwise defined herein shall have the meanings given to such terms in the Credit Agreement.

Section 2. The Guaranty. In accordance with **Section 8.12** of the Credit Agreement, the Additional Subsidiary Guarantor by its signature below becomes a Subsidiary Guarantor under the Guaranty with the same force and effect as if originally named therein as a Subsidiary Guarantor, and the Additional Subsidiary Guarantor hereby (a) jointly and severally with the other Subsidiary Guarantors, guarantees to the Administrative Agent and the Lenders, and their respective successors and permitted assigns, the full and punctual payment in full or performance (whether at stated maturity, by acceleration or otherwise), of all Guaranteed Obligations in the same manner and to the same extent as is provided in **Section 13** of the Credit Agreement and (b) makes the representations and warranties set forth in **Section 7** of the Credit Agreement applicable to a Subsidiary Guarantor, with respect to itself and its obligations under this Agreement and the other Loan Documents, as if each reference in such Sections to the Loan Documents included reference to this Agreement, such representations and warranties to be made as of the date hereof[; provided that the Schedules to the Credit Agreement are hereby supplemented to

include the items set forth on the corresponding schedules to this Agreement].[1] Each reference to a "Subsidiary Guarantor" in the Loan Documents shall be deemed to include the Additional Subsidiary Guarantor as if originally named therein as a Subsidiary Guarantor. The Guaranty is hereby incorporated herein by reference.

Section 3. Representations and Warranties. The Additional Subsidiary Guarantor represents and warrants to the Administrative Agent and the other Secured Parties that this Agreement has been duly authorized, executed and delivered by it and constitutes its legal, valid and binding obligation, enforceable against it in accordance with its terms, except as such enforceability may be limited by (i) bankruptcy, insolvency, reorganization, moratorium or similar laws of general applicability affecting the enforcement of creditors' rights and (ii) the application of general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

Section 4. Counterparts; Integration. This Agreement may be executed in any number of counterparts (including electronic imaging means), all of which taken together shall constitute one and the same instrument and any of the parties hereto may execute this Agreement by signing any such counterpart. Delivery of an executed signature page of this Agreement by electronic transmission (e.g., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart of this Agreement. The words "execution," "execute", "signed," "signature," and words of like import in or related to any document to be signed in connection with this Agreement and the other Loan Documents and the transactions contemplated hereby and thereby shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable Law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

Section 5. Effect on Guaranty. Except as expressly supplemented hereby, the Guaranty shall remain in full force and effect.

Section 6. Governing Law; Jurisdiction.

(a) *Governing Law*. This Agreement and the rights and obligations of the parties hereunder shall be governed by, and construed in accordance with, the laws of the State of New York, without regard to principles of conflicts of laws that would result in the application of the laws of any other jurisdiction; provided that Section 5-1401 of the New York General Obligations Law shall apply.

[1] If any Schedules set forth in **Section 7** of the Credit Agreement need to be updated, include such updates as a schedule to this Agreement.

(b) *Jurisdiction*. The Additional Subsidiary Guarantor irrevocably and unconditionally agrees that it shall not commence any action, litigation or proceeding of any kind or description, whether in law or equity, whether in contract or tort or otherwise, against the Administrative Agent, any Lender or any Related Party of the foregoing in any way relating to this Agreement or any Loan Document or the transactions relating hereto or thereto, in any forum other than the United States District Court for the Southern District of New York sitting in the Borough of Manhattan (or if such court lacks subject matter jurisdiction, the Supreme Court of the State of New York sitting in the Borough of Manhattan), and any appellate court from any thereof, and irrevocably and unconditionally submits to the exclusive jurisdiction of such courts and agrees that all claims in respect of any such action, litigation or proceeding may be heard and determined in such New York State court or, to the fullest extent permitted by applicable Law, in such federal court. The Additional Subsidiary Guarantor hereto agrees that a final judgment in any such action, litigation or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) *Waiver of Venue*. The Additional Subsidiary Guarantor irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Agreement or any other Loan Document in any court referred to in paragraph (b) of this **Section 6** or in **Section 14.10(a)** of the Credit Agreement and hereby further irrevocably waives to the fullest extent permitted by law any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum. A final judgment (in respect of which time for all appeals has elapsed) in any such suit, action or proceeding shall be conclusive and may be enforced in any court to the jurisdiction of which such party is or may be subject, by suit upon judgment.

(d) *Service of Process*. The Additional Subsidiary Guarantor irrevocably consents to service of process in the manner provided for notices in **Section 14.02** of the Credit Agreement. Nothing in this Agreement will affect the right of the Administrative Agent to serve process in any other manner permitted by applicable law.

Section 7. Waiver of Jury Trial. THE ADDITIONAL SUBSIDIARY GUARANTOR HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT, THE OTHER LOAN DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY.

Section 8. Severability. If any provision hereof is found by a court to be invalid or unenforceable, to the fullest extent permitted by any Law, the Additional Subsidiary Guarantor agrees that such invalidity or unenforceability shall not impair the validity or enforceability of any other provision hereof. Without limiting the foregoing provisions of this **Section 8**, if and to the extent that the enforceability of any provisions in this Agreement relating to Defaulting Lenders shall be limited by the Bankruptcy Code, or any other liquidation, conservatorship, bankruptcy, assignment for the benefit of creditors, examinership, moratorium, rearrangement, receivership, insolvency, reorganization, or similar debtor relief laws of the United States or other applicable jurisdictions from time to time in effect, as determined in good faith by the Administrative Agent, then such provisions shall be deemed to be in effect only to the extent not so limited.

Section 9. Notices. All communications and notices hereunder shall be in writing (including by telecopy or email) and given as provided in **Section 14.02** of the Credit Agreement.

Section 10. Administrative Agent's Expenses. The Additional Subsidiary Guarantor agrees to reimburse the Administrative Agent for all of its reasonable and documented out of pocket expenses in connection with this Agreement as provided in **Section 14.03(a)** of the Credit Agreement.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Additional Subsidiary Guarantor has caused this Guarantee Assumption Agreement to be duly executed and delivered as of the day and year first above written.

[ADDITIONAL SUBSIDIARY GUARANTOR]

By _____
Name:
Title:

Address for Notices:
[____]
[____]
Attn: [____]
Tel.: [____]
Fax: [____]
Email: [____]

EXHIBIT C-5

EXHIBIT D

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Not Partnerships for U.S. Federal Income Tax Purposes)

Reference is made to the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, each Lender from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

Pursuant to the provisions of **Section 5.03(f)** of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record and beneficial owner of the Loan(s) (as well as any Note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (ii) it is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, (iii) it is not a "10-percent shareholder" of the Borrower within the meaning of Section 871(h)(3)(B) of the Code, and (iv) it is not a "controlled foreign corporation" related to the Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished the Administrative Agent and the Borrower with a certificate of its non-U.S. Person status on IRS Form W-8BEN or IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform the Borrower and the Administrative Agent, and (2) the undersigned shall have at all times furnished the Borrower and the Administrative Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF LENDER]

By: _____
Name:
Title:

Date: _____, 20[•]

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Not Partnerships for U.S. Federal Income Tax Purposes)

Reference is made to the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

Pursuant to the provisions of **Section 5.03(f)** of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record and beneficial owner of the participation in respect of which it is providing this certificate, (ii) it is not a "bank" within the meaning of Section 881(c)(3)(A) of the Code, (iii) it is not a "10-percent shareholder" of the Borrower within the meaning of Section 871(h)(3)(B) of the Code, and (iv) it is not a "controlled foreign corporation" related to the Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with a certificate of its non-U.S. Person status on IRS Form W-8BEN or IRS Form W-8BEN-E. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform such Lender in writing, and (2) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF PARTICIPANT]

By: _____
Name:
Title:

Date: _____, 20[•]

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Participants That Are Partnerships for U.S. Federal Income Tax Purposes)

Reference is made to the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

Pursuant to the provisions of **Section 5.03(f)** of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record owner of the participation in respect of which it is providing this certificate, (ii) its direct or indirect partners/members are the sole beneficial owners of such participation, (iii) with respect to such participation, neither the undersigned nor any of its direct or indirect partners/members is a "bank" extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (iv) none of its direct or indirect partners/members is a "10-percent shareholder" of the Borrower within the meaning of Section 871(h)(3)(B) of the Code, and (v) none of its direct or indirect partners/members is a "controlled foreign corporation" related to the Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished its participating Lender with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or IRS Form W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or IRS Form W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform such Lender and (2) the undersigned shall have at all times furnished such Lender with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF PARTICIPANT]

By: _____
Name:
Title:

Date: _____, 20[•]

FORM OF U.S. TAX COMPLIANCE CERTIFICATE

(For Foreign Lenders That Are Partnerships for U.S. Federal Income Tax Purposes)

Reference is made to the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

Pursuant to the provisions of **Section 5.03(f)** of the Credit Agreement, the undersigned hereby certifies that (i) it is the sole record owner of the Loan(s) (as well as any Note(s) evidencing such Loan(s)) in respect of which it is providing this certificate, (ii) its direct or indirect partners/members are the sole beneficial owners of such Loan(s) (as well as any Note(s) evidencing such Loan(s)), (iii) with respect to the extension of credit pursuant to this Credit Agreement or any other Loan Document, neither the undersigned nor any of its direct or indirect partners/members is a "bank" extending credit pursuant to a loan agreement entered into in the ordinary course of its trade or business within the meaning of Section 881(c)(3)(A) of the Code, (iv) none of its direct or indirect partners/members is a "10-percent shareholder" of the Borrower within the meaning of Section 871(h)(3)(B) of the Code, and (v) none of its direct or indirect partners/members is a "controlled foreign corporation" related to the Borrower as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished the Administrative Agent and the Borrower with IRS Form W-8IMY accompanied by one of the following forms from each of its partners/members that is claiming the portfolio interest exemption: (i) an IRS Form W-8BEN or IRS Form W-8BEN-E or (ii) an IRS Form W-8IMY accompanied by an IRS Form W-8BEN or IRS Form W-8BEN-E from each of such partner's/member's beneficial owners that is claiming the portfolio interest exemption. By executing this certificate, the undersigned agrees that (1) if the information provided in this certificate changes, the undersigned shall promptly so inform the Borrower and the Administrative Agent, and (2) the undersigned shall have at all times furnished the Borrower and the Administrative Agent with a properly completed and currently effective certificate in either the calendar year in which each payment is to be made to the undersigned, or in either of the two calendar years preceding such payments.

Unless otherwise defined herein, terms defined in the Credit Agreement and used herein shall have the meanings given to them in the Credit Agreement.

[NAME OF LENDER]

By: _____
Name:
Title:

Date: _____, 20[•]

EXHIBIT E

FORM OF COMPLIANCE CERTIFICATE
[DATE]

This certificate is delivered pursuant to **Section 8.01(d)** of the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***"). Capitalized terms used herein and not otherwise defined herein are used herein as defined in the Credit Agreement.

The undersigned, a duly authorized Responsible Officer of the Borrower having the name and title set forth below under his or her signature, hereby certifies (in his or her capacity as an officer of the Borrower and not in his or her individual capacity or with any personal liability), on behalf of the Borrower for the benefit of the Lenders and pursuant to **Section 8.01(d)** of the Credit Agreement that such Responsible Officer of the Borrower is familiar with the Credit Agreement and that, in accordance with each of the following sections of the Credit Agreement, each of the following is true on the date hereof:

[In accordance with **Section 8.01**[**(b)/(c)**] of the Credit Agreement, attached hereto as Annex A are the financial statements for the [fiscal quarter/fiscal year] ended [•] required to be delivered.] / [The financial statements for the [fiscal quarter/fiscal year] ended [•] required to be furnished pursuant to **Section 8.01**[**(b)/(c)**] of the Credit Agreement are publicly available on "EDGAR" or on the Borrower's website.] Such financial statements fairly present in all material respects the financial condition of the Borrower and its Subsidiaries as at the dates indicated therein and the results of operations of the Borrower and its Subsidiaries for the periods indicated therein and have been prepared in accordance with GAAP consistently applied [(subject to changes resulting from normal, year-end audit adjustments and except for the absence of notes)][1][and shall be permissible to be subject to any "going concern" or like qualifications or exception or emphasis of matter of going concern footnote or any qualification or exception as to the scope of such audit].[2]

1. [The Borrower is in compliance with the covenant contained in **Section 10.02(b)** of the Credit Agreement as of the date hereof, and attached hereto as Annex B is evidence (which shall be reasonably satisfactory to the Administrative Agent) that the Borrower is in compliance with the covenant set out in **Section 10.02(b)** of the Credit Agreement.][3]

1 Insert language in brackets only for quarterly certifications delivered pursuant to **Section 8.01(b)** of the Credit Agreement.
2 Insert language in brackets only for quarterly certifications delivered pursuant to **Section 8.01(C)** of the Credit Agreement.
3 Insert language in brackets only for certifications once the conditions of **Section 10.02** of the Credit Agreement have been met, on or prior to June 30, 2024.

2. No Default or Event of Default is continuing as of the date hereof[, except as provided for on Annex C attached hereto, which describes in detail the nature of the condition or event, the period during which it has existed and the action which the Borrower has taken, is taking, or proposes to take with respect to each such condition or event].

3. [Attached hereto as Annex D is an update to the information on Schedule 1 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date (as defined in the Security Agreement)], required to be updated pursuant to **Sections 5(e)** (Location of Collateral), **5(k)** (Inventory), and **5(l)** (Notices, Reports, and Information) of the Security Agreement.]

4. [Attached hereto as Annex E is an update to the information on Schedule 2 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date], required to be updated pursuant to **Section 3(e)(ii)** (Registered Intellectual Property Collateral) of the Security Agreement.]

5. [Attached hereto as Annex F is an update to the information on Schedule 3 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date (as defined in the Security Agreement)], required to be updated pursuant to **Sections 3(b)** (Pledged Collateral) of the Security Agreement.][4]

6. [Attached hereto as Annex G is a list of all Accounts of any Grantor (as defined in the Security Agreement) in an aggregate amount in excess of $250,000 per fiscal year arising from Contracts with the United States or any department, agency or instrumentality thereof, arising since the [Closing Date][last Quarterly Reporting Date], required to be updated pursuant to **Section 5(i)(ii)** of the Security Agreement.]

7. [Attached hereto as Annex H is a list of all new Material Agreements of any Obligor together with copies thereof, arising since the [Closing Date][last Quarterly Reporting Date].]

8. [In accordance with **Section 8.01(d)** of the Credit Agreement, attached hereto as Annex H are details of any material issues that are raised by auditors and any occurrence or existence of any event, circumstance, act or omission that would cause any representation or warranty contained in **Section 7.07**, **Section 7.17** or **Section 7.21** of the Credit Agreement to be incorrect in any material respect (or in any respect if such representation or warranty is qualified by materiality or by reference to Material Adverse Effect or Material Adverse Change (after giving effect to such qualifier)) if such representation or warranty were to be made at the time of delivery of this Compliance Certificate.]

---

4 To the extent any of the updated information includes certificates or instruments representing Pledged Collateral (as defined in the Security Agreement) with a value in excess of $250,000, such certificates or instruments should be delivered to the Administrative Agent (together with appropriate instruments of transfer or assignment in blank) no later than the Quarterly Reporting Date immediately following the date such certificates or instruments were received by the applicable Grantor. See Section 3(b) of the Security Agreement.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the undersigned has executed this certificate on the date first written above.

FRACTYL HEALTH, INC.

By _____
Name:
Title:

EXHIBIT E-3

ANNEX A TO COMPLIANCE CERTIFICATE

FINANCIAL STATEMENTS

[See attached.]

EXHIBIT E-4

ANNEX B TO COMPLIANCE CERTIFICATE

FINANCING MILESTONE

Section 10.02(b) of the Credit Agreement

	Required	Actual	Complies
[Qualified Financing Proceeds received between Closing Date and December 15, 2023][1]	$ 10,000,000	$	Yes No N/A
[Qualified Financing Proceeds received between Closing Date and February 15, 2024][2]	$ 40,000,000	$	Yes No N/A
Qualified Financing Proceeds received on or after the Closing Date but prior to June 30, 2024	$100,000,000	$	
or	or	or	Yes No N/A
Qualified IPO consummated prior to June 30, 2024	$ 60,000,000	$	

1 Prior to Borrower's receipt of Qualified Financing Proceeds of at least $10,000,000 during the period commencing on the Closing Date and ending on or prior to December 15, 2023, to be included only for quarterly reporting delivered pursuant to **Section 8.01(b)** of the Credit Agreement.

2 Prior to Borrower's receipt of Qualified Financing Proceeds of at least $40,000,000 during the period commencing on the Closing Date and ending on or prior to February 15, 2024, to be included only for quarterly reporting delivered pursuant to **Section 8.01(b)** of the Credit Agreement.

ANNEX C TO COMPLIANCE CERTIFICATE

DEFAULTS OR EVENTS OF DEFAULT

[IF NEEDED]

EXHIBIT E-6

ANNEX D TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 1 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-7

ANNEX E TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 2 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-8

ANNEX F TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 3 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-9

ANNEX G TO COMPLIANCE CERTIFICATE

GOVERNMENTAL ACCOUNTS

[IF NEEDED]

EXHIBIT E-10

ANNEX H TO COMPLIANCE CERTIFICATE

MATERIAL AGREEMENTS

[IF NEEDED]

EXHIBIT E-11

ANNEX I TO COMPLIANCE CERTIFICATE

COMPLIANCE WITH LAWS AND AGREEMENTS, REGULATORY APPROVALS AND PRIORITY OF OBLIGATIONS

[IF NEEDED]

EXHIBIT E-12

EXHIBIT F

FORM OF ASSIGNMENT AND ASSUMPTION

This Assignment and Assumption (this "***Assignment and Assumption***") is dated as of the Effective Date set forth below and is entered into by and between [_____] (the "***Assignor***") and [_____] (the "***Assignee***"). Capitalized terms used herein and not otherwise defined herein are used herein as defined in the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the lenders from time to time party thereto (each a "***Lender***" and collectively, the "***Lenders***"), and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***"), receipt of a copy of which is hereby acknowledged by the Assignee. The Standard Terms and Conditions set forth in Annex 1 attached hereto are hereby agreed to and incorporated herein by reference and made a part of this Assignment and Assumption as if set forth herein in full.

For an agreed consideration, the Assignor hereby irrevocably sells and assigns to the Assignee, and the Assignee hereby irrevocably purchases and assumes from the Assignor, subject to and in accordance with the Standard Terms and Conditions and the Credit Agreement, as of the Effective Date inserted by the Administrative Agent as contemplated below (i) all of the Assignor's rights and obligations in its capacity as a Lender under the Credit Agreement and any other documents or instruments delivered pursuant thereto to the extent related to the amount and percentage interest identified below of all of such outstanding rights and obligations of the Assignor under the Credit Agreement and (ii) to the extent permitted to be assigned under applicable law, all claims, suits, causes of action and any other right of the Assignor (in its capacity as a Lender) against any Person, whether known or unknown, arising under or in connection with the Credit Agreement, any other documents or instruments delivered pursuant thereto or the loan transactions governed thereby or in any way based on or related to any of the foregoing, including, but not limited to, contract claims, tort claims, malpractice claims, statutory claims and all other claims at law or in equity related to the rights and obligations sold and assigned pursuant to **clause (i)** above (the rights and obligations sold and assigned by the Assignor to the Assignee pursuant to **clauses (i)** and **(ii)** above being referred to herein collectively as the "***Assigned Interest***"). Such sale and assignment is without recourse to the Assignor and, except as expressly provided in this Assignment and Assumption, without representation or warranty by the Assignor.

1. Assignor[s]: _____

_____

2. Assignee[s]: _____

_____

[Assignee is an Affiliate of [*identify Lender*]]

3. Borrower: FRACTYL HEALTH, INC.

4. Administrative Agent: Symbiotic Capital Agency LLC

5. Credit Agreement: Credit Agreement and Guaranty, dated as of September 7, 2023, as amended, restated, amended and restated, supplemented or otherwise modified from time to time, among the Borrower, certain Subsidiaries of the Borrower that may be required to provide Guarantees from time to time thereunder, the Lenders from time to time party thereto and the Administrative Agent.

6. Assignee's jurisdiction of tax residence:

7. Assigned Interest[s]:

Assignor[s][1]	Assignee[s][2]	Aggregate Amount of Commitment/Loans for all Lenders	Amount of Commitment/Loans Assigned	Percentage Assigned of Commitment/ Loans[3]
		$	$	%
		$	$	%
		$	$	%

[*Signature Page Follows*]

1 List each Assignor, as appropriate
2 List each Assignee, as appropriate
3 Set forth, to at least nine decimals, as a percentage of the Loans of all Lenders thereunder.

Effective Date: _____, 20___ [TO BE INSERTED BY ADMINISTRATIVE AGENT AND WHICH SHALL BE THE EFFECTIVE DATE OF RECORDATION OF TRANSFER IN THE REGISTER THEREFOR.]

The terms set forth in this Assignment and Assumption are hereby agreed to:

ASSIGNOR

[NAME OF ASSIGNOR]

By: _____
Name: _____
Title: _____

ASSIGNEE

[NAME OF ASSIGNEE]

By: _____
Name: _____
Title: _____

Consented to and Accepted:

SYMBIOTIC CAPITAL AGENCY LLC, as Administrative Agent

By: _____
Name:
Title:

[Consented to:

FRACTYL HEALTH, INC.

By: _____
Name:
Title:[4]

[4] The consent of the Borrower is required unless (x) an Event of Default under **Section 11.01(a)** or **11.01(h)** of the Credit Agreement has occurred and is continuing at the time of such assignment or (y) such assignment is to an Eligible Transferee described in clause (vi) of the definition thereof in the Credit Agreement.

ANNEX 1
STANDARD TERMS AND CONDITIONS

1. Representations and Warranties.

1.1 Assignor. The Assignor (a) represents and warrants that (i) it is the legal and beneficial owner of the Assigned Interest, (ii) the Assigned Interest is free and clear of any lien, encumbrance or other adverse claim and (iii) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby; and (b) assumes no responsibility with respect to (i) any statements, warranties or representations made in or in connection with the Credit Agreement or any other Loan Document, (ii) the execution, legality, validity, enforceability, genuineness, sufficiency or value of the Loan Documents or any collateral thereunder, (iii) the financial condition of the Borrower, any of its Subsidiaries or Affiliates or any other Person obligated in respect of any Loan Document or (iv) the performance or observance by the Borrower, any of its Subsidiaries or Affiliates or other Person of any of their respective obligations under any Loan Document.

1.2 Assignee. The Assignee (a) represents and warrants that (i) it has full power and authority, and has taken all action necessary, to execute and deliver this Assignment and Assumption and to consummate the transactions contemplated hereby and to become a Lender under the Credit Agreement, (ii) it is an Eligible Transferee (or, if an Event of Default under **Section 11.01(a)** or **11.01(h)** has occurred and is continuing, or with the prior written consent of the Borrower in its sole and absolute discretion, is a Person that is not a Defaulting Lender), and it satisfies the requirements, if any, specified in the Credit Agreement that are required to be satisfied by it in order to acquire the Assigned Interest and become a Lender, (iii) from and after the Effective Date, it shall be bound by the provisions of the Credit Agreement as a Lender thereunder and, to the extent of the Assigned Interest, shall have the obligations of a Lender thereunder, (iv) it is sophisticated with respect to decisions to acquire assets of the type represented by the Assigned Interest and either it, or the Person exercising discretion in making its decision to acquire the Assigned Interest, is experienced in acquiring assets of such type, (v) it has received a copy of the Credit Agreement, together with copies of the most recent financial statements delivered pursuant to **Sections 8.01(b)** and **(c)** thereof, as applicable, and such other documents and information as it has deemed appropriate to make its own credit analysis and decision to enter into this Assignment and Assumption and to purchase the Assigned Interest on the basis of which it has made such analysis and decision independently and without reliance on the Administrative Agent or any other Lender and (vi) attached to the Assignment and Assumption is any documentation required to be delivered by it pursuant to the terms of the Credit Agreement, duly completed and executed by the Assignee; and (b) agrees that (i) it will, independently and without reliance on the Administrative Agent, the Assignor or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own credit decisions in taking or not taking action under the Loan Documents, and (ii) it will perform in accordance with their terms all of the obligations which by the terms of the Loan Documents are required to be performed by it as a Lender.

2. **Payments.** From and after the Effective Date, the Administrative Agent shall make all payments in respect of the Assigned Interest (including payments of principal, interest, fees and other amounts) to the Assignee whether such amounts have accrued prior to, on or after the Effective Date. The Assignor and the Assignee shall make all appropriate adjustments in payments by the Administrative Agent for periods prior to the Effective Date or with respect to the making of this assignment directly between themselves.

3. **General Provisions.** This Assignment and Assumption shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and permitted assigns. This Assignment and Assumption may be executed in any number of counterparts, which together shall constitute one instrument. Delivery of an executed counterpart of a signature page of this Assignment and Assumption by facsimile or other electronic transmission (PDF format) shall be effective as delivery of a manually executed counterpart of this Assignment and Assumption. This Assignment and Assumption shall be governed by, and construed in accordance with, the law of the State of New York.

EXHIBIT G

FORM OF LANDLORD CONSENT

This CONSENT AGREEMENT (this "***Agreement***") is entered into as of [•], 20[•], by and between [INSERT NAME OF LANDLORD] ("***Landlord***"), [INSERT NAME OF TENANT] (the "***Tenant***") and Symbiotic Capital Agency LLC (in such capacity, together with its successors and permitted assigns, the "***Administrative Agent***"), with reference to the following facts:

WHEREAS, Landlord and the Tenant have entered into that certain lease, dated as of [•], 20[•] and attached hereto as Annex A (the "***Lease***") for certain premises described in the Lease for certain premises described in the Lease and [insert location address] (the "***Premises***");

WHEREAS, the Tenant has entered into (i) that certain Credit Agreement and Guaranty, dated as of September 7, 2023, among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto [including the Tenant], the Lenders from time to time party thereto and the Administrative Agent (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***") and (ii) that certain Security Agreement, dated as of September 7, 2023, among the Borrower, the other Grantors from time to time party thereto [including the Tenant], and the Administrative Agent (as amended or otherwise modified from time to time, the "***Security Agreement***"); and

WHEREAS, pursuant to the Security Agreement, the Administrative Agent has obtained a continuing security interest in, among other things, substantially all assets of the Tenant, whether now owned or hereafter acquired (the "***Collateral***"), including any equipment, tools, machinery, inventory, stock, goods, furniture, accounts receivable, trade fixtures and other property (together with all additions, substitutions, replacements, improvements and proceeds thereof, "***Tenant's Property***") that are now or in the future may become located or stored at the Premises, until all Obligations (other than the inchoate indemnification and reimbursement obligations for which no claim has been made) have been paid in full in cash and the Credit Agreement has been terminated (the capitalized terms used above but not defined shall have the definition provided in the Credit Agreement or Security Agreement, as applicable).

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. (a) Landlord is the landlord under the Lease, (b) the Lease is in full force and effect, (c) Landlord has no actual knowledge of any defense, offset, claim or counterclaim by or in favor of Landlord against Tenant under the Lease or against the obligations of Landlord under the Lease and (d) Landlord has no knowledge of the occurrence of any default under or in connection with the Lease.

2. Tenant's granting of a security interest in or lien upon the Collateral in favor of the Administrative Agent shall not constitute a default under the Lease or permit Landlord to terminate the Lease or otherwise be the basis for the exercise of any remedy by Landlord. Tenant's obligations under the Loan Documents, and any of the terms and conditions thereof, may be amended, modified or extended without consent of or notice to Landlord.

3. Landlord shall send to the Administrative Agent a concurrent copy of any notice of default or acceleration of rent payments under the Lease sent to Tenant. Failure by Landlord to send any such notice shall not affect the rights or obligations of Landlord or Tenant under the Lease and Landlord shall not incur any liability for failure to do so. Landlord shall allow the Administrative Agent the same rights to cure a default under the Lease as Tenant has under the Lease during the same cure period afforded to Tenant (provided that the Administrative Agent shall have no obligation to cure). Landlord shall also send to the Administrative Agent notice of any termination of the Lease within five (5) business days thereof. No action by Administrative Agent pursuant to this Agreement shall be deemed to be an assumption by Administrative Agent of any obligation under the Lease, and, except as explicitly provided in **Sections 7** and **10** below, the Administrative Agent shall not have any obligation to Landlord.

4. Landlord waives and releases in favor of the Administrative Agent: (a) each and every right which Landlord now has under applicable law or by virtue of the Lease, to levy or distrain upon for rent, in arrears, in advance or both, or to claim or assert title to the Tenant's Property that is located on the Premises and (b) any and all other interests or claims of every nature whatsoever which Landlord may now or hereafter have in or against Tenant's Property for any rent, storage charges, or other sums due, or to become due, to Landlord by Tenant.

5. Tenant's Property is and will remain personal property and shall not be considered fixtures or otherwise part of the Premises regardless of whether or by what means it is or may become attached or affixed to the Premises. Landlord shall provide prompt written notice to the Administrative Agent at the address set forth in its signature block of any early termination or expiration of the lease or any abandonment of the Premises by the Tenant.

6. Landlord hereby agrees to not exercise any of Landlord's rights, remedies, powers, privileges, or discretions with respect to Tenant's Property, or Landlord's liens or security interests in Tenant's Property, unless and until Landlord receives written notice from the Administrative Agent that Tenant's obligations under the Loan Documents have been paid in full. The foregoing waiver is for the benefit of the Administrative Agent only and does not affect the obligations of Tenant to Landlord under the Lease.

7. During the term of the Lease and subject to the rights of the Tenant under **Section 8.06** of the Credit Agreement, Landlord grants to the Administrative Agent a license to enter upon and into the Premises upon reasonable prior written notice to each of Landlord and the Tenant at reasonable times during regular business hours to take possession of, sell or otherwise enforce its security interest in Tenant's Property. Landlord shall cooperate with the Administrative Agent's enforcement of its security interest and rights in Tenant's Property, at no cost to Landlord. The Administrative Agent will comply with any security or escort requirements or other reasonable requirements imposed by Landlord. The Administrative Agent shall promptly repair, at the Administrative Agent's expense, or reimburse Landlord for any physical damage to the Premises caused by the conduct of such sale and any removal of Tenant's Property by or through the Administrative Agent (normal wear and tear excluded); provided that the Administrative Agent shall not be liable for any diminution in value of the Premises caused by the absence of any of Tenant's Property or any other property left on the Premises by Landlord or Tenant.

8. So long as the Tenant remains in possession of the Premises, Landlord will not dispose of any of the Tenant's Property nor assert any right or interest therein. If any of Tenant's Property remains on the Premises after the Tenant has vacated the Premises and an Event of Default has occurred and is continuing, Landlord (i) will promptly inform the Administrative Agent of the vacancy and not dispose of any of the Tenant's Property nor assert any right or interest therein, unless the Administrative Agent has had a reasonable period of time (in any case, not less than ninety (90) days after the Administrative Agent has actual knowledge that the Tenant has vacated the Premises) to exercise the Administrative Agent's rights in and to the Tenant's Property, and (ii) will permit the Administrative Agent, or its agents or representatives, upon two (2) business days' prior written notice by the Administrative Agent to Landlord at the address set forth in its signature block, to enter upon the Premises during such ninety (90) day period for the purpose of exercising any right the Administrative Agent may have under the terms of the Credit Agreement or Security Agreement, at law, or in equity, including, without limitation, the right to remove the Collateral and the right to conduct a public auction or private sale of Tenant's Property at the Premises, provided that the Administrative Agent shall use reasonable best efforts to notify Landlord first and hold such auction or sale in a manner that would not unduly disrupt Landlord's or any other tenant's use of the Premises.

9. If any order or injunction is issued or stay granted which prohibits the Administrative Agent from exercising any of its rights hereunder, then, at the Administrative Agent's option, the period set forth in this **Section 9** shall be stayed during the period of such prohibition and shall continue thereafter for the greater of (i) the number of days remaining for the Administrative Agent to perform under **Section 3** or (ii) thirty (30) days.

10. The Administrative Agent agrees, promptly to repair any damage to the Premises caused by the Administrative Agent's or its agent's removal of the Tenant's Property following the occurrence and continuance of an Event of Default or, if Landlord, in its sole discretion, shall elect to make such repairs, to pay to Landlord promptly the reasonable costs and expenses incurred in connection therewith. The Administrative Agent hereby indemnifies Landlord for any claim, liability or expense (including reasonable attorneys' fees) arising out of or in connection with the Administrative Agent's or its agent's entry upon the Premises and removal of the Collateral. Notwithstanding the foregoing, the Administrative Agent shall not (i) be liable for any diminution in value of the Premises caused by the absence of any Collateral so removed or (ii) have any duty or obligation to remove or dispose of any Collateral or any other property left on the Premises by the Tenant.

11. All notices hereunder to Landlord or to the Administrative Agent shall be in writing and sent to Landlord or to the Administrative Agent at its address set forth on the signature page hereof by email, United States mail or overnight delivery service.

12. The agreements contained herein shall continue in effect until all amounts advanced under the Credit Agreement have been paid in full in cash. Upon payment in full in cash (other than contingent or inchoate indemnification and reimbursement obligations for which no claim has been made) of Tenant's obligations under the Credit Agreement, all agreements herein shall automatically terminate without further action of any of the parties party hereto.

13. This Agreement and any right, remedy, obligation, claim, controversy, dispute or cause of action based upon, arising out of or relating to this Agreement shall be governed by, and construed in accordance with, the law of the State of New York without regard to conflicts of law principles that would lead to the application of laws other than the laws of the State of New York.

14. Landlord irrevocably and unconditionally (a) agrees that it will not commence any action, litigation or proceeding of any kind or description, whether in law or in equity, whether in contract, tort or otherwise, against the Administrative Agent arising out of or relating to this Agreement in any forum other than the courts of the State of New York sitting in New York County, and of the United States District Court of the Southern District of New York, and any appellate court from any thereof, (b) submits to the jurisdiction of such courts and agrees that all claims in respect of such action, litigation or proceeding may be heard and determined in such New York State court or, to the fullest extent permitted by applicable law, in such federal court, (c) agrees that a final judgment in any such action, litigation or proceeding will be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law, (d) waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any action or proceeding arising out of or relating to this Agreement in any court referred to in this Section, (e) waives, to the fullest extent permitted by applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court, and (f) consents to the service of any process, summons, notice or document in any such action, litigation or proceeding by registered mail addressed to Landlord at its address set forth on the signature page hereof. Nothing herein will affect the right of the Administrative Agent to serve legal process in any other manner permitted by law or affect the Administrative Agent's right to bring any action, litigation or proceeding against Landlord or its property in the courts of other jurisdictions. To the extent that Landlord has or hereafter may acquire any immunity from jurisdiction of any court or from any legal process (whether through service or notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise) with respect to itself or its property, Landlord irrevocably waives such immunity in respect of its obligations under this Agreement.

15. Sub-Agent. All rights of the Administrative Agent hereunder may be exercised by any other person acting on the Administrative Agent's behalf as its sub-agent and designated by the Administrative Agent in writing as such.

16. WAIVER OF JURY TRIAL. LANDLORD IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR AGENT'S ACTIONS IN THE NEGOTIATION, ADMINISTRATION OR ENFORCEMENT HEREOF.

17. This Agreement may be executed in any number of counterparts (including electronic imaging means), all of which taken together shall constitute one and the same instrument and any of the parties hereto may execute this Agreement by signing any such counterpart. Delivery of an executed signature page of this Agreement by electronic transmission (e.g., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart hereof. The words "execution," "execute", "signed," "signature," and words of like import in this Agreement shall be

deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

18. This Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and permitted assigns of the respective parties hereto.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the undersigned have executed this instrument at _____, this ____ day of _____, 20__.

[LANDLORD'S NAME], as Landlord

By: _____
Name:
Title:

Address for Notices:
[_____]
[_____]
Attn: [_____]
Tel.: [_____]
Fax: [_____]
Email: [_____]

SYMBIOTIC CAPITAL AGENCY LLC, as Administrative Agent

By: _____
Name:
Title:

By: _____
Name:
Title:

Address for Notices:

Symbiotic Capital Agency LLC, as Administrative Agent
[_____]
Attn: [_____]
Email: [_____]

With copies to:

Cooley LLP
10265 Science Center Drive
San Diego, CA 92121
Attn: [_____]
Tel.: [_____]
Email: [_____]

Acknowledged and Agreed to:

[TENANT'S NAME], as the Tenant

By _____
Name:
Title:

ANNEX A

Lease

(See attached.)

EXHIBIT G-8

EXHIBIT H

FORM OF INTERCOMPANY SUBORDINATION AGREEMENT

This Intercompany Subordination Agreement, dated as of [•], 20[•] (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, this "***Subordination Agreement***"), is entered into by and among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), certain Subsidiaries of the Borrower that are parties hereto, certain other Subsidiaries of the Borrower that may, from time to time in the future, become parties hereto by executing and delivering a joinder agreement in substantially the form of **Exhibit A** hereto (any such Subsidiary being herein, individually, a "***Subsidiary Party***" and collectively the "***Subsidiary Parties***") and Symbiotic Capital Agency LLC in its capacity as Administrative Agent for the Lenders under the Credit Agreement (as defined below) (in such capacity, together with its successors and permitted assigns, the "***Administrative Agent***").

Reference is made to that certain Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***") among the Borrower, certain Subsidiaries of the Borrower that may be required to provide Guarantees from time to time thereunder, the Lenders from time to time party thereto and the Administrative Agent. Unless otherwise defined, capitalized terms used herein have the meanings set forth in the Credit Agreement.

This Subordination Agreement is being executed and delivered by the parties hereto pursuant to **Sections 8.12(a)**, **9.01(b)**, **9.01(e)** and **9.01(g)**, as applicable**,** of the Credit Agreement.

One or more of the Borrower and the Subsidiary Parties (each, individually, a "***Borrower Party***" and collectively, the "***Borrower Parties***"), in their capacities as lenders (each such entity, together with its successors, assigns and transferees in such capacity, individually, a "***Junior Creditor***", and, collectively, "***Junior Creditors***") has made, or may from time to time make, loans or extend other financings to either (i) one or more of the Borrower Parties that is an Obligor (each such Obligor, in its capacity as a borrower from any Junior Creditor (together with its successors, assigns and transferees) being herein, individually, a "***Loan Party Obligor***", and, collectively, "***Loan Party Obligors***") or (ii) if such Junior Creditor is an Obligor, one or more of the Subsidiary Parties that is not an Obligor (each such entity, in its capacity as a borrower from any such Junior Creditor that is an Obligor (together with its successors, assigns and transferees) being herein, individually, a "***Subsidiary Obligor***", and collectively, "***Subsidiary Obligors***", and together with the Loan Party Obligors, individually, a "***Debtor Obligor***", and, collectively, "***Debtor Obligors***") to the extent permitted pursuant to **Section 9.01** of the Credit Agreement. All such Indebtedness resulting from the making of any such loan or financing, together with all principal, interest, premiums, fees, costs, expenses, liabilities, indemnification amounts, obligations and other amounts of any type or nature owing or arising in respect thereof, is herein collectively referred to as the "***Junior Obligations***".

Each of the Junior Creditors and each of the Debtor Obligors, for the benefit of the Secured Parties and each of their permitted successors, transferees and assigns, hereby irrevocably and unconditionally agree as follows:

1. All payment obligations and other monetary obligations of any Debtor Obligor arising from time to time under or in connection with any Junior Obligations to any Junior Creditor are, and shall be, subordinated in right of payment and performance to the extent and in the manner set forth herein, to the prior Payment in Full (as defined below) of all Obligations (other than contingent or inchoate indemnification and reimbursement obligations for which no claim has been made) owing under the Credit Agreement and the Loan Documents, whether in respect of principal, interest, fees or other monetary obligations or liabilities of any type or nature, including costs and expenses of enforcement, if any, and, where applicable, such Debtor Obligor's Guaranty thereof (collectively the "***Senior Obligations***"), notwithstanding the maturity date or amortization date of any Junior Obligations or any acceleration of the maturity date related thereto, any default by or insolvency of any Debtor Obligor or any other Person, or otherwise.

2. This Subordination Agreement is for the benefit of, and shall be enforceable by the Administrative Agent on behalf of, the Secured Parties.

3. In the event of any dissolution, winding up, liquidation, arrangement, reorganization, adjustment, protection, relief or composition of any Debtor Obligor or its debts, whether voluntary or involuntary, in any bankruptcy, insolvency, arrangement, reorganization, receivership, relief or other similar case or proceeding under any bankruptcy, insolvency or similar law or upon an assignment for the benefit of creditors or any other marshalling of the assets and liabilities of any Debtor Obligor or otherwise, the Administrative Agent shall be entitled to receive Payment in Full of the Senior Obligations before any Junior Creditor is entitled to receive any payment of all or any of the Junior Obligations, and any payment or distribution of any kind (whether in cash, property or securities, but other than (i) equity securities or (ii) debt securities of such Obligor that are subordinated, to at least the same extent as the Junior Obligations hereunder, to the payment of all Senior Obligations then outstanding) that otherwise would be payable or deliverable upon or with respect to the Junior Obligations in any such case, proceeding, assignment, marshalling or otherwise (including any payment that may be payable by reason of any other indebtedness of such Obligor being subordinated to payment of the Junior Obligations) shall be paid or delivered in accordance with the Credit Agreement for the account of the applicable Lenders for application (in the case of cash) to, or as collateral (in the case of non-cash property or securities) for, the payment or prepayment of the Senior Obligations until the Payment in Full of the Senior Obligations.

4. If any proceeding referred to in **Section 3** above is commenced by or against any Debtor Obligor,

   a. the Administrative Agent is hereby irrevocably authorized and empowered (in its own name or in the name of each Junior Creditor or otherwise), but shall have no obligation, to demand, sue for, collect and receive every payment or distribution referred to in **Section 3** above and give acquittance therefor and to file claims and proofs of claim and take such other action

(including, without limitation, voting the Junior Obligations or enforcing any security interest or other lien securing payment of the Junior Obligations) as it may deem necessary or advisable for the exercise or enforcement of any of the rights or interests of the Administrative Agent or Lenders hereunder; and

b. each Junior Creditor shall duly and promptly take such action as the Administrative Agent may reasonably request (A) to collect the Junior Obligations for the account of the Lenders and to file appropriate claims or proofs or claim in respect of the Junior Obligations, (B) to execute and deliver to the Administrative Agent such powers of attorney, assignments, or other instruments as either may reasonably request in order to enable the Administrative Agent to enforce any and all claims with respect to, and any security interests and other liens securing payment of, the Junior Obligations, and (C) to collect and receive any and all payments or distributions which may be payable or deliverable upon or with respect to the Junior Obligations.

5. At all times during a Subordination Triggering Event (as defined below) and until Payment in Full of all Senior Obligations, (i) no Debtor Obligor shall make, and no Junior Creditor shall accept, receive or collect from or on behalf of any Debtor Obligor, any direct or indirect payment or distribution of any kind or character whatsoever (whether in cash, securities, other property, by set-off, forgiveness of any Indebtedness of any Junior Creditor, from or by way of collateral, or otherwise) on account of any of the Junior Obligations, and (ii) under no circumstance shall any payment of any of the Junior Obligations be accelerated, or any other remedy, enforcement action or other action be taken by any Junior Creditor against any Debtor Obligor or any property of any Debtor Obligor or of any other Person, in each case with respect to any of the Junior Obligations (including to assert, enforce or collect any of the Junior Obligations), in each case, without the prior written consent of the Administrative Agent.

6. No Junior Creditor shall, directly or indirectly, independently or with any other Person, take any action that would be in violation of, or inconsistent with, or result in a breach of this Subordination Agreement or challenge or contest (i) the validity, perfection, priority or enforceability of this Subordination Agreement, any Senior Obligations or any Liens securing the Senior Obligations ("***Senior Liens***"), (ii) any of the rights of any Secured Party set forth in the Credit Agreement or any other Loan Document (including with respect to the Senior Liens), or (iii) the validity or enforceability of the Credit Agreement or any other Loan Document or any portion thereof.

7. In the event that, during a proceeding referred to in **Section 3** above or Subordination Triggering Event (as defined below) and prior to Payment in Full of the Senior Obligations, any Junior Creditor shall receive any payment or distribution of any kind or character whatsoever (whether in cash, securities, other property, by set-off, forgiveness of any Indebtedness of any Junior Creditor, or

otherwise) on or in respect of all or any portion of the Junior Obligations in violation of any of the provisions of this Subordination Agreement, then such payment or distribution shall be held in trust by such Junior Creditor for the benefit of, and promptly (and in any event within five (5) Business Days) paid over by such Junior Creditor to the Administrative Agent for application of such payment or distribution to repay the Senior Obligations in accordance with the terms thereof, until Payment in Full of the Senior Obligations as confirmed in writing by the Administrative Agent to the Borrower.

8. For purposes of this Subordination Agreement, (a) "***Payment in Full***" means, with respect to the Senior Obligations, that all such obligations (other than contingent indemnification and/or unasserted expense reimbursement obligations) and other amounts payable constituting Senior Obligations have been paid in full in cash and (b) "***Subordination Triggering Event***" shall mean the occurrence and continuation of any Default or Event of Default under the Credit Agreement and delivery to the Borrower by the Administrative Agent of notice that such Default or Event of Default shall constitute a Subordination Triggering Event.

9. Neither any Junior Creditor nor any Debtor Obligor may, except as permitted under the Credit Agreement:

   a. sell, assign, pledge, encumber, transfer or otherwise dispose of any of its rights or obligations hereunder unless such sale, assignment, pledge, encumbrance or disposition is made expressly subject to this Subordination Agreement; or

   b. permit the terms of any of the Junior Obligations to be changed in such a manner as to have a material adverse effect upon the rights and remedies of the Administrative Agent or any of the Secured Parties pursuant to the Loan Documents.

10. All rights and interests of the Administrative Agent and the other Secured Parties hereunder, and all agreements and obligations of each Junior Creditor and each Debtor Obligor under this Subordination Agreement, shall remain in full force and effect until Payment in Full of the Senior Obligations irrespective of:

    a. any amendment, extension, renewal, compromise, discharge, acceleration or other change in the time for payment or the terms of the Senior Obligations or any part thereof;

    b. any taking, holding, exchange, enforcement, waiver, release, failure to perfect, sell or otherwise dispose of any security for payment of any Guarantee or any Senior Obligations;

    c. the application of security and directing the order or manner of sale thereof as the Administrative Agent and the Secured Parties in their sole discretion may determine;

d. the release or substitution of one or more of any endorsers or other guarantors of any of the Senior Obligations;

e. the taking of, or failure to take any action which, but for this **Section 10**, might operate as a discharge of such Debtor Obligor;

f. any defense arising by reason of any disability, change in corporate existence or structure or other defense of any Debtor Obligor or a Junior Creditor, the cessation from any cause whatsoever (including any act or omission of any Secured Party) of the liability of such Debtor Obligor or a Junior Creditor;

g. any defense based on any claim that such Debtor Obligor's or Junior Creditor's obligations exceed or are more burdensome than those of any other Debtor Obligor or any other Junior Creditor, as applicable;

h. any right to proceed against any Debtor Obligor, proceed against or exhaust any security for the Obligations, or pursue any other remedy in the power of any Secured Party, whatsoever;

i. any benefit of and any right to participate in any security now or hereafter held by any Secured Party, and

j. to the fullest extent permitted by law, any and all other defenses or benefits that may be derived from or afforded by applicable law limiting the liability of or exonerating guarantors or sureties.

This Subordination Agreement shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Senior Obligations is rescinded or must otherwise be returned by the Administrative Agent or any other Secured Party upon the insolvency, bankruptcy or reorganization of any Obligor or otherwise, all as though such payment had not been made.

11. The Administrative Agent and the Lenders are hereby authorized to demand specific performance of this Subordination Agreement, whether or not such Debtor Obligor shall have complied with any of the provisions hereof applicable to it, at any time when such Junior Creditor shall have failed to comply with any of the provisions of this Subordination Agreement applicable to it. Each Junior Creditor hereby irrevocably waives any defense based on the adequacy of remedy at law, which might be asserted as a bar to such remedy of specific performance.

12. Each Junior Creditor agrees that no payment or distribution to the Administrative Agent or the other Lenders pursuant to the provisions of this Subordination Agreement shall entitle such Junior Creditor to exercise any right of subrogation in respect thereof until the Payment in Full of the Senior Obligations.

13. Each Junior Creditor and each Debtor Obligor will, at its expense and at any time and from time to time, promptly execute and deliver all further instruments and documents, and take all further action, that may be necessary, or that the Administrative Agent may reasonably request in writing, in order to protect any right or interest granted or purported to be granted hereby or to enable the Administrative Agent or any other Lenders to exercise and enforce their respective rights and remedies hereunder.

14. This Subordination Agreement is a Loan Document executed pursuant to the Credit Agreement and shall (unless otherwise expressly indicated therein) be construed, administered and applied in accordance with all of the terms and provisions of the Credit Agreement, as amended hereby, including **Section 14** thereof. The provisions of this Subordination Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective permitted successors and assigns.

15. This Subordination Agreement may be executed in any number of counterparts (including electronic imaging means), all of which taken together shall constitute one and the same instrument and any of the parties hereto may execute this Subordination Agreement by signing any such counterpart. Delivery of an executed signature page of this Subordination Agreement by electronic transmission (e.g., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart hereof. The words "execution," "execute", "signed," "signature," and words of like import in or related to any document to be signed in connection with this Subordination Agreement and the transactions contemplated hereby and thereby shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable Law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

16. This Subordination Agreement and the rights and obligations of the parties hereunder shall be governed by, and construed in accordance with, the law of the State of New York, without regard to principles of conflicts of laws that would result in the application of the laws of any other jurisdiction; provided that Section 5-1401 of the New York General Obligations Law shall apply.

17. Any Subsidiary of the Borrower may, without the consent of any other party to this agreement, become a Borrower Party under this Subordination Agreement by executing and delivering to the Administrative Agent a Subordination Agreement Joinder in substantially the form of the attached **Exhibit A**.

18. Except as modified in accordance with **Section 17** above to add any Subsidiary of the Borrower as an additional Borrower Party to this Subordination Agreement, this Subordination Agreement may not be amended, waived or otherwise modified without the prior written consent of the Administrative Agent and the Borrower.

19. Upon the consummation of any transaction permitted under the Credit Agreement as a result of which a Borrower Party ceases to be a Subsidiary of the Borrower, such Borrower Party shall be automatically released from its obligations hereunder.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties have caused this Subordination Agreement to be duly executed and delivered as of the date first above written.

FRACTYL HEALTH, INC.

By _____
Name:
Title:

FRACTYL LABORATORIES LTD.

By _____
Name: [•]
Title: [•]

FRACTYL SECURITIES CORPORATION

By _____
Name: [•]
Title: [•]

ADMINISTRATIVE AGENT:

SYMBIOTIC CAPITAL AGENCY LLC

By _____
Name:
Title:

Exhibit A

Form of Intercompany Subordination Agreement Joinder

INTERCOMPANY SUBORDINATION AGREEMENT JOINDER, dated as of [DATE] (this "***Joinder***") by [NAME OF ADDITIONAL SUBSIDIARY], a [•] [***Insert****: corporation, limited partnership, limited liability company, etc.*] (the "***Additional Borrower Party***"), under that certain Intercompany Subordination Agreement, dated as of [•], 20[•] (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Subordination Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Subsidiaries of the Borrower from time to time party thereto and Symbiotic Capital Agency LLC, in its capacity as Administrative Agent for the Lenders under the Credit Agreement (in such capacity, together with its successors and permitted assigns, the "***Administrative Agent***"). Capitalized terms used herein and not otherwise defined herein are used herein as defined in the Subordination Agreement.

Pursuant to Section 17 of the Subordination Agreement, the Additional Borrower Party hereby agrees to become a "Borrower Party" for all purposes of the Subordination Agreement, assumes and agrees to perform all of the obligations of [a Debtor Obligor] [and] [Junior Creditor] thereunder and agrees that it shall comply with and be bound by the terms of the Subordination Agreement as if it had been a signatory thereto as of the date thereof.

The Additional Borrower Party acknowledges that its obligations as a party to this Joinder are unconditional and are not subject to the execution of one or more Joinders by other parties. The Additional Borrower Party further agrees that it has joined and is fully obligated as [a Debtor Obligor] [and] [Junior Creditor] under the Subordination Agreement.

The Additional Borrower Party represents and warrants to the Administrative Agent and the other Secured Parties that this Joinder has been duly authorized, executed and delivered by it and constitutes its legal, valid and binding obligation, enforceable against it in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, fraudulent conveyance or transfer, moratorium or similar laws affecting creditors' rights generally, and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law.

All terms and conditions of the Subordination Agreement are hereby incorporated by reference to this Joinder as if set forth in full.

IN WITNESS WHEREOF, the Additional Borrower Party has caused this Joinder to be duly executed and delivered as of the day and year first above written.

[ADDITIONAL BORROWER PARTY]

By_____
Name:
Title:

Exhibit I

FORM OF SOLVENCY CERTIFICATE [_____], 20[__]

This Solvency Certificate (this "***Certificate***") is delivered pursuant to [**Section 6.01(h)**] of that certain Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, together with its successors and permitted assigns, the "***Administrative Agent***"). Capitalized terms used herein and not otherwise defined herein are used herein as defined in the Credit Agreement.

The undersigned, the [chief financial officer/Responsible Officer] of the Borrower, in such capacity only and not in my individual capacity (and without personal liability) hereby certifies on behalf of the Borrower as of the date hereof as follows:

1. I am the [chief financial officer/Responsible Officer] of the Borrower and am knowledgeable of the financial and accounting matters of the Borrower and its Subsidiaries and as such, I am authorized to execute and deliver this Certificate on behalf of the Borrower.

2. I have carefully reviewed the contents of this Certificate and have knowledge of and have reviewed to my satisfaction the Credit Agreement.

In connection with preparing for the transactions contemplated by the Credit Agreement and the other Loan Documents, I have reviewed (i) the audited consolidated financial statements of the Borrower and its Subsidiaries for the fiscal year ended [•], (ii) the unaudited consolidated balance sheets of the Borrower and its Subsidiaries for the fiscal quarter ended [•], together with the related consolidated statement of operations, shareholder's equity and cash flows for such fiscal quarter and (iii) all other information as is necessary to enable me to express an informed opinion as to the matters referred to herein, and I conclude, in good faith and to my knowledge and belief, that as of the date hereof and immediately before and after giving effect to all the transactions contemplated on the date hereof by the Credit Agreement and the other Loan Documents and the incurrence of any other Indebtedness contemplated thereunder on the date hereof, as follows:

(i) The Obligors and their Subsidiaries, on a consolidated basis, immediately before and after giving effect to the Borrowing being made on the date hereof and the use of proceeds thereof, and the consummation of the Transactions, are and will be, Solvent.

(ii) No transfer of property is being made by the Borrower or any of its Subsidiaries and no obligation is being incurred by the Borrower individually and together with its Subsidiaries, on a consolidated basis, in connection with the transactions contemplated by the Credit Agreement or the other Loan Documents with the intent to hinder, delay, or defraud either present or future creditors of the Borrower or any of its Subsidiaries.

The undersigned understands that the Administrative Agent and the Lenders are relying on the truth and accuracy of this Certificate and that the delivery of this Certificate is a material inducement for the Administrative Agent and the Lenders to enter into the Credit Agreement and consummate the transactions contemplated thereby, and the undersigned hereby consents to such reliance.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the undersigned has executed this certificate on the date first written above.

FRACTYL HEALTH, INC.

By_____
Name:
Title:

EXHIBIT I-3

EXHIBIT J

FORM OF FUNDING DATE CERTIFICATE

TRANCHE [A][B][C] FUNDING DATE CERTIFICATE
FOR
FRACTYL HEALTH, INC.

[•], 20[•]

Reference is made to that certain Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), certain Subsidiaries of the Borrower that may be required to provide Guarantees from time to time thereunder, the lenders from time to time party thereto (each a "***Lender***" and collectively, the "***Lenders***"), and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***"). Unless otherwise indicated, capitalized terms used but not defined herein shall have the respective meanings set forth in the Credit Agreement.

I, [•], am a duly elected or appointed Responsible Officer of the Borrower, and do hereby certify, on behalf of the Borrower, solely in my capacity as Responsible Officer of the Borrower and not in my individual capacity or with any personal liability, as follows:

1. Immediately before and after giving effect to the borrowing on the Applicable Funding Date, (i) the representations and warranties set forth in each Loan Document are true and correct in all material respects (unless such representations are already qualified by reference to materiality, Material Adverse Effect or similar language, in which case such representations and warranties are true and correct in all respects (after giving effect to such qualification)) on and as of the date hereof, except [(x)] to the extent such representations and warranties specifically relate to an earlier date, in which case such representations and warranties were true and correct in all material respects (unless such representations are already qualified by reference to materiality, Material Adverse Effect or similar language, in which case such representations and warranties are true and correct in all respects (after giving effect to such qualification) respects on and as of such earlier date and [(y) the representations and warranties made under **Section 7.04(a)** of the Credit Agreement shall be deemed to refer to the most recent financial statements of the Borrower furnished to the Administrative Agent pursuant to [**Section 6.01(g)**][**Section 8.01**] of the Credit Agreement][1] and (ii) no event has occurred and is continuing, or would result from the making of Loans or the consummation of any Transactions contemplated to occur on the Applicable Funding Date, that would constitute a Default or an Event of Default.

[1] Insert for borrowings occurring after the Closing Date.

2. [Attached hereto are updated copies of **Schedule**[**s**] [**7.06(c)**], [**7.12**], [**7.15**] and [**7.16**], to the extent necessary to comply with the foregoing requirement set forth in paragraph 1 to this Funding Date Certificate][2]

3. All of the conditions set forth in **Section** [**6.01**][3][**6.02**][4] of the Credit Agreement have occurred or shall occur on the Applicable Funding Date (except to the extent waived in writing by the Administrative Agent).

[*Signature Page Follows*]

2 Insert if necessary for borrowings occurring after the Closing Date.
3 Insert for borrowing occurring on the Closing Date.
4 Insert for borrowings occurring after the Closing Date.

IN WITNESS WHEREOF, I have signed this certificate on behalf of the Borrower on the date first set forth above.

FRACTYL HEALTH, INC.

By_____
Name:
Title:

EXHIBIT J-3

EXHIBIT K

FORM OF WARRANT

[see attached]

WARRANT TO PURCHASE STOCK

NEITHER THIS WARRANT NOR THE SECURITIES ISSUABLE UPON ITS EXERCISE OR CONVERSION HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "*SECURITIES ACT*"), OR ANY APPLICABLE STATE SECURITIES LAW AND MAY NOT BE TRANSFERRED EXCEPT (I) IN ACCORDANCE WITH THE SECURITIES ACT OR SUCH APPLICABLE STATE SECURITIES LAWS, PURSUANT TO REGISTRATION OR EXEMPTION THEREFROM, OR (II) WHERE, IN THE OPINION OF COUNSEL, REGISTRATION UNDER THE SECURITIES ACTS OR SUCH APPLICABLE STATE SECURITIES LAWS IS NOT REQUIRED IN CONNECTION WITH SUCH PROPOSED TRANSFER.

Warrant No. [•]

This WARRANT (this "***Warrant***") is issued as of [•] (the "***Initial Issuance Date***"), by Fractyl Health, Inc., a Delaware corporation (the "***Company***"), to [Symbiotic Capital EO Holding, L.P.][Catalio Structured Opportunities AIV I LP], a [•] ("***Purchaser***" and, together with any assignee(s) or transferee(s), "***Holder***" or "***Holders***").

WHEREAS, the Company, certain subsidiaries of the Company as guarantors, the Purchaser as lender and the other lenders party thereto (collectively, the "***Lenders***"), and Symbiotic Capital Agency LLC, as administrative agent, are parties to that certain Credit Agreement and Guaranty, dated as of [•], 2023 (the "***Credit Agreement***"), pursuant to which the Company may borrow from the Lenders, and the Lenders may loan to the Company, up to $45,000,000 from the date of the Credit Agreement through the Maturity Date; and

WHEREAS, the Company is issuing this Warrant to Purchaser as a condition precedent to the making of the loans by Purchaser pursuant to the Credit Agreement.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and Purchaser agree as follows:

Section 1. Definitions. Unless otherwise defined herein, capitalized terms have the meanings set forth in the Credit Agreement (as in effect on the date hereof), however, the following terms when used herein have the following meanings:

"***Affiliate***" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

"***Aggregate Exercise Price***" means, in connection with any Exercise of this Warrant pursuant to **Section 4** (whether in whole or in part), an amount equal to the product of (i) the number of Underlying Shares in respect of which this Warrant is then being Exercised pursuant to such **Section 4**, multiplied by (ii) the Exercise Price.

"***Common Stock***" means the Company's common stock.

"***Exchange***" means, (i) if applicable to the Common Stock, the principal Trading Market on which the Common Stock is then listed or quoted, or (ii) whichever of the following reports sale or bid prices for the Common Stock, if any: the OTCQB, OTCQX, the OTC Bulletin Board or "Pink Sheets" published by OTC Markets Group Inc. (or a similar organization or agency succeeding to its functions of reporting prices).

"***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder.

"***Exercise Price***" means, as determined by the Holder at the time of the relevant Exercise of Underlying Shares in Holder's sole discretion, an amount per Underlying Share equal to the (i) the original issue price of the Company's Series F Preferred Stock (or the most recent "conversion price" (or similar term used in the Company's certificate of incorporation for purposes of determining the rate at which shares of Series F Preferred Stock may be converted into shares of Common Stock), if lower as a result of one or more anti-dilution adjustments or otherwise), whether or not the Series F Preferred Stock is then authorized, issued or outstanding, (ii) the lowest original issue price of any series of Preferred Stock issued by the Company after the Initial Issuance Date (or the lowest "conversion price" (or similar term used in the Company's certificate of incorporation for purposes of determining the rate at which shares of Preferred Stock may be converted into shares of Common Stock) of any series of Preferred Stock issued by the Company after the Initial Issuance Date, if lower as a result of one or more anti-dilution adjustments or otherwise), whether or not any such shares are then authorized, issued or outstanding, (iii) the conversion or exercise price of any convertible debt security, SAFE (simple agreement for future equity) instrument, option or warrant issued by the Company after the Initial Issuance Date (other than securities issued for bona fide compensatory purposes, such as equity awards to employees or directors under the Company's equity incentive plan that are approved by an independent compensation committee of the Company's board of directors or by a majority of the Company's independent directors) and prior to the Company becoming subject to the reporting requirements of the Exchange Act, or (iv) the price at which the Company's common equity was first sold to the public by the Company in a firm-commitment underwritten offering or otherwise, in each case subject to adjustment pursuant to **Section 7** hereof. In addition, if the "conversion price" (or similar term used in the Company's certificate of incorporation for purposes of determining the rate at which shares of Preferred Stock may be converted into shares of Common Stock) of the Series F Preferred Stock or any other series of Preferred Stock issued by the Company after the Initial Issuance Date would have been reduced as a result of one or more anti-dilution adjustments or otherwise but for the fact that the requisite holders of Preferred Stock or applicable series of Preferred Stock waived the adjustment(s), then, for purposes of **clauses (i)** and **(ii)** above, the "conversion price" shall be the conversion price if such requisite holders had not waived the adjustment(s), unless Purchaser has also waived the adjustment(s).

"***Exercise Shares***" means the number of Underlying Shares as is equal to the quotient, rounded down to the nearest whole number, of (x) [**Symbiotic amount:** $3,500,000][**Catalio amount:** $700,000] *minus* the Aggregate Exercise Price of all Underlying Shares previously issued pursuant to this Warrant, divided by (y) the then-applicable Exercise Price.

"***Fair Market Value***" means, with respect to any security or other property, the fair market value of such security or other property as determined by the independent members of the Board of Directors of the Company, acting in good faith. If the Holder objects in writing to the Board of Directors' calculation of Fair Market Value within ten (10) days of receipt of written notice thereof and the Holder and the Company are unable to agree on Fair Market Value during the five (5) day period following the delivery of the Holder's objection, the valuation dispute resolution procedure set forth in **Section 21** hereof shall be invoked to determine Fair Market Value.

"***Market Price***" means, with respect to a particular security, on any given day, the last reported sale price, regular way, or, in case no such reported sale takes place on such day, the average of the closing bid and asked prices, regular way, in either case on the Exchange. "Market Price" shall be determined without reference to after hours or extended hours trading. If such security is not listed and traded in a manner that the quotations referred to above are available for the period required hereunder, the Market Price per share of Common Stock shall be deemed to be the Fair Market Value. For the purposes of determining the Market Price of the Common Stock on the Trading Day preceding, on or following the occurrence of an event, (i) that Trading Day shall be deemed to commence immediately after the regular scheduled closing time of trading on the Trading Market on which the Common Stock is listed or, if trading is closed at an earlier time, such earlier time and (ii) that Trading Day shall end at the next regular scheduled closing time, or if trading is closed at an earlier time, such earlier time (for the avoidance of doubt, and as an example, if the Market Price is to be determined as of the last Trading Day preceding a specified event and the closing time of trading on a particular day is 4:00 p.m. and the specified event occurs at 5:00 p.m. on that day, the Market Price would be determined by reference to such 4:00 p.m. closing price).

"***Person***" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

"***Standard Settlement Period***" means the standard settlement period, expressed in a number of Trading Days, on the primary Exchange for the Common Stock, if any.

"***Trading Day***" means (i) a day on which the Common Stock is traded on the Exchange, or (ii) if the foregoing **clause (i)** does not apply, a Business Day.

"***Trading Market***" means any market or exchange of The Nasdaq Stock Market LLC or the New York Stock Exchange.

"***Underlying Shares***" means, at Holder's option, (i) the Company's Series F Preferred Stock if the Company's Series F Preferred Stock is then authorized by the Company's Certificate of Incorporation, (ii) the most senior series of Preferred Stock of the Company that is then authorized by the Company's Certificate of Incorporation, or (iii) Common Stock; provided, however, that from an after the date the Company completes its initial public offering or becomes subject to the reporting requirements of the Exchange Act and in either case such transaction results in all of the Company's previously outstanding shares of Preferred Stock being converted into Common Stock, the Underlying Shares will be Common Stock.

"***VWAP***" means, for any date, the price determined by the first of the following clauses that applies: (i) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:00 p.m. (New York City time)), (ii) if the Common Stock is listed on an Exchange other than a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) or (iii) in all other cases, the fair market value of a share of Common Stock as determined by an independent nationally recognized investment banking, accounting or valuation firm selected in good faith by the Company and reasonably acceptable to the Holder, the fees and expenses of which shall be paid by the Company.

Section 2. Issuance of Warrant; Term. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company hereby grants to Holder the right to purchase from the Company the Exercise Shares at the Exercise Price. This Warrant shall be exercisable at any time and from time to time, in whole or in part, during the ten (10) year period commencing on the date hereof and ending at 5:00 p.m. California Time on [•], 2033 (such date and time referred to as the "***Expiration Date***").

Section 3. [Reserved].

Section 4. Exercise.

(a) This Warrant may be exercised by the Holder hereof as to all or any portion of the Underlying Shares, upon delivery of written notice by the Holder to the Company (an "***Exercise Notice***"), together with (x) payment to the Company of the Aggregate Exercise Price or (y) (i) if the Underlying Shares are not then listed or quoted on an Exchange, instruction to the Company to withhold a number of the Underlying Shares then issuable upon exercise of this Warrant with an aggregate value (determined on the basis of the Fair Market Value) equal to such Aggregate Exercise Price or (ii) if the Underlying Shares are then listed or quotes on an Exchange, instruction to the Company to withhold a number of the Underlying Shares then issuable upon exercise of this Warrant with an aggregate value (determined on the basis of the average Market Price per share for the Common Stock on the last five Trading Days for such stock ended immediately prior to the applicable Exercise Date, as defined below) equal to such Aggregate Exercise Price (collectively, the "***Exercise***", with the date of an Exercise being an "***Exercise Date***"). An Exercise pursuant to **clause (y)** above is referred to as a "***Cashless Exercise***." The Exercise Price (if paid pursuant to **clause (x)** above) shall be payable by delivery by the Holder of a certified or official bank check payable to the order of the Company or wire transfer of immediately available funds to an account designated by the Company. This Warrant shall be deemed to have been so Exercised as of the applicable Exercise Date, and the Holder shall be entitled to receive the Underlying Shares issuable upon such Exercise and be treated for all purposes as the holder of record of the Underlying Shares as of such date. Upon the Exercise of this Warrant, the Company shall, within two (2) Business Days of the applicable Exercise Date (or, if the Common Stock is then listed or quoted on an Exchange, the earlier of two (2) Business Days and the number of Trading Days comprising the Standard Settlement Period) (the "***Underlying Share Delivery Date***"), (a) confirm in writing to the Holder of this Warrant (which may be via email) the total number of Underlying Shares for which this Warrant is being Exercised, and (b) cause the Underlying Shares (by the Company or its transfer agent, if applicable) subject to such Exercise to be transmitted to the Holder by (i) crediting the account of the Holder's or its

designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system if the Company is then a participant in such system and either there is an effective registration statement permitting the issuance of the Underlying Shares to or resale of the Underlying Shares by the Holder or the Underlying Shares are eligible for resale by the Holder pursuant to Rule 144 (if the Exercise is a Cashless Exercise)), or (ii) if the foregoing **clause (i)** does not apply, by physical delivery of a certificate for the number of Underlying Shares being issued upon such Exercise, or if the Underlying Shares are being issued in uncertificated form, a written confirmation evidencing the book-entry registration of such Underlying Shares in the Holder's name; provided that if the Company fails to deliver to Holder such Underlying Shares by the Underlying Share Delivery Date, the Holder will have the right to rescind such Exercise. Any rescission by the Holder pursuant to this **Section 4(a)** shall not affect any other remedies available to the Holder under applicable law or equity or pursuant to this Warrant as a result of the Company's failure to timely deliver the Underlying Shares. The Company covenants and agrees that it will pay when due any and all state and federal issue taxes which may be payable by the Company in respect of the issuance of this Warrant or the issuance of any Underlying Shares upon Exercise. If the Company fails for any reason to deliver to the Holder the Underlying Shares subject to an Exercise by the Underlying Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of Underlying Shares subject to such Exercise (based on the VWAP of the Common Stock on the date of the applicable Exercise), $10 per Trading Day (increasing to $20 per Trading Day on the third Trading Day after the Underlying Share Delivery Date) for each Trading Day after such Underlying Share Delivery Date until such Underlying Shares are delivered or Holder rescinds such Exercise.

(b) In the event of a Cashless Exercise where the number of the Underlying Shares then issuable upon Cashless Exercise of this Warrant with an aggregate value equal to the Aggregate Exercise Price is not a whole number, the number of the Underlying Shares withheld by or surrendered to the Company shall be rounded up to the nearest whole share, and the Company shall make a cash payment to the Holder (by delivery of a certified or official bank check or by wire transfer of immediately available funds) based on the incremental fraction of Underlying Shares being so withheld by or surrendered to the Company in an amount equal to the product of (x) such incremental fraction of Underlying Shares being so withheld or surrendered multiplied by (y) the value per share of Underlying Shares (determined on the basis of the average Market Price per share for the Common Stock on the last five Trading Days for such stock ended immediately prior to the applicable Exercise Date).

(c) If at the time of Exercise the Company is subject to the reporting requirements of the Exchange Act, the Company shall not knowingly effect the Exercise of this Warrant, and the Holder shall not have the right to Exercise this Warrant to the extent that, after giving effect to such exercise, the Holder (together with Holder's Affiliates and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "***Attribution Parties***")) would beneficially own in excess of 9.99% (the "***Maximum Percentage***") (which Maximum Percentage may be increased or decreased by the Holder with at least 61 days' notice to the Company provided that in no event may the Maximum Percentage exceed 19.99%) of the Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by such Person and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of

such sentence is being made, but shall exclude shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised portion of this Warrant beneficially owned by such Person and its Affiliates and Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by such Person and its Affiliates and Attribution Parties (including, without limitation, any convertible notes or convertible shares or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act. For purposes of this **Section 4(c)**, in determining the number of outstanding shares of Common Stock, a Holder of this Warrant may rely on the number of outstanding shares of Common Stock as reflected in the most recent of (1) the Company's Form 10-K, Form 10-Q or other public filing with the United States Securities and Exchange Commission, as the case may be, (2) a more recent public announcement by the Company or (3) any other notice by the Company or its transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall, within one (1) Business Day, confirm to such Holder the number of shares of its Common Stock then outstanding. Furthermore, upon the written request of the Company, a Holder shall confirm to the Company its then current beneficial ownership with respect to the Company's Common Stock. To the extent that the limitation contained in this **Section 4(c)** applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the delivery of an Exercise Notice by the Holder shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Maximum Percentage, and the Company shall have no obligation to verify or confirm the accuracy of such determination.

(d) In addition to any other rights available to the Holder, if the Common Stock is listed or quoted on an Exchange and the Underlying Shares subject to an Exercise are either (i) then registered for resale pursuant to the Securities Act or (ii) are being Exercised pursuant to a Cashless Exercise and can immediately thereafter be sold pursuant to Rule 144 of the Securities Act, then, in such case, if the Company fails to deliver or cause to be delivered to the Holder the Underlying Shares subject to an Exercise in accordance with the provisions of **Section 4(a)** above on or before the Underlying Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Underlying Shares which the Holder anticipated receiving upon such exercise (a "***Buy-In***"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Underlying Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Underlying Shares for which such Exercise was not honored (in which case such Exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total

purchase price of $11,000 to cover a Buy-In with respect to an attempted Exercise of Underlying Shares with an aggregate sale price giving rise to such purchase obligation of $10,000, under **clause (A)** of the immediately preceding sentence the Company shall be required to pay the Holder $1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(e) If on the Expiration Date the Market Price or Fair Market Value, as applicable, of an Underlying Share is greater than the Exercise Price, this Warrant shall be automatically Exercised pursuant to a Cashless Exercise as of immediately prior to the 5:00 p.m. Pacific Time on the Expiration Date.

Section 5. No Fractional Shares. No fractional shares may be issued upon any exercise of this Warrant or as a consequence of any adjustment pursuant to **Section 7**, and any fractions shall be rounded upwards to the nearest whole number of shares, provided that the exercise price per share shall not be less than the par value.

Section 6. Securities Laws.

(a) Holder acknowledges that the Underlying Shares are being offered and sold by the Company in accordance with Section 4(a)(2) and/or Regulation D under the Securities Act and that the Underlying Shares will constitute "restricted securities" as defined in Rule 144 under the Securities Act. Neither this Warrant nor the Underlying Shares have been registered under the Securities Act, or any state securities laws ("***Blue Sky Laws***"). This Warrant has been acquired for the Holder's own account for investment purposes and not with a current view to distribution or resale and may not be sold or otherwise transferred (i) without an effective registration statement for such Warrant under the Securities Act and such applicable Blue Sky Laws, or (ii) unless Holder shall have delivered to the Company an opinion of counsel to the effect that the Warrant or such portion of the Warrant to be sold or transferred may be sold or transferred under an exemption from such registration (provided, however, that no such opinion of counsel shall be required in connection with any transfer of the Warrant pursuant to Rule 144 of the Securities Act); provided, that the foregoing conditions shall not apply to any transfer of this Warrant from Purchaser to any Affiliate, managed fund or account of Symbiotic Capital Management Co. LLC.

(b) Holder represents that is an "accredited investor" as defined in Rule 501 of Regulation D promulgated under the Securities Act. Holder acknowledges that it can bear the economic and financial risk of its investment for an indefinite period and has such knowledge and experience in financial or business matters that it is capable of evaluating the merits and risks of the investment in this Warrant Certificate and the Underlying Shares. The Holder has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and the business, properties, prospects and financial condition of the Company. Holder acknowledges that it did not learn of the investment in this Warrant as a result of any general solicitation or general advertising.

(c) The Company covenants and agrees that all Underlying Shares will, upon issuance and payment therefor, be legally and validly issued and outstanding, free from all taxes, liens, charges and preemptive or similar rights, if any, with respect thereto or to the issuance thereof. The Company will take all such action as may be reasonably necessary or appropriate to assure that the Underlying Shares may be issued as provided herein without violating any applicable law or regulation, or any requirements of the Trading Market upon which the Common Stock may be listed.

(d) The certificates representing the Underlying Shares, if applicable, will bear the following or similar legend, unless the Company determines otherwise in compliance with applicable law:

> "THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "***ACT***"), OR UNDER THE SECURITIES LAWS OF ANY STATE. THESE SECURITIES ARE SUBJECT TO RESTRICTIONS ON TRANSFERABILITY AND RESALE AND MAY NOT BE TRANSFERRED OR RESOLD EXCEPT AS PERMITTED UNDER THE ACT AND APPLICABLE STATE SECURITIES LAWS, PURSUANT TO REGISTRATION OR EXEMPTION THEREFROM. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME. THE ISSUER OF THESE SECURITIES MAY REQUIRE AN OPINION OF COUNSEL IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER TO THE EFFECT THAT ANY PROPOSED TRANSFER OR RESALE IS IN COMPLIANCE WITH THE ACT AND ANY APPLICABLE STATE SECURITIES LAWS."

With respect to any Underlying Shares bearing a restrictive legend, the Company agrees that following such time as the restrictive legend is no longer required because the Underlying Shares (1) are registered for resale under the Securities Act and have been sold pursuant to the Plan of Distribution set forth in the registration statement relating thereto, or (2) have been sold pursuant to Rule 144 of the Securities Act or another exemption from the registration requirements of the Securities Act that would permit the removal of the legend set forth above, upon the Holder's written request the Company shall deliver a certificate or book-entry position representing such Underlying Shares that is free from all restrictive and other legends or, at such Holder's election, deliver such Underlying Shares to an account designated by such Holder.

In the event the Company is obligated to deliver Underlying Shares to a Holder without restrictive legend pursuant to this Warrant, the Company will, no later than the later of the earlier of (i) two (2) Business Days and (ii) the number of Business Days comprising the Standard Settlement Period following the request by the Holder to deliver Underlying Shares without restrictive legend pursuant to this **Section 6(d)** (such date, the "***Legend Removal Date***"), deliver or cause to be delivered to such Holder a certificate or book-entry position representing such Underlying Shares that is free from all restrictive and other legends or, at such Holder's election,

deliver such Underlying Shares to an account designated by such Holder. Notwithstanding anything to the contrary set forth herein, in the event the Holder has been issued a certificate representing Underlying Shares that bears a restrictive legend and the Holder submits a request to have the legends from such certificate removed in accordance with this **Section 6(d)**, then the Legend Removal Date shall be the later of (i) the time specified in the definition above and (ii) the date Holder delivers the certificate representing the relevant Underlying Shares to the Company or its transfer agent, or, if the certificate has been lost, delivers an executed affidavit of loss to the Company or its transfer agent.

In addition to such Holder's other available remedies, if the Company fails to deliver unlegended Underlying Shares to the Holder by the Legend Removal Date as required by this **Section 6(d)**, the Company shall pay to the Holder, in cash, (i) as partial liquidated damages and not as a penalty, for each $1,000 of Underlying Shares (based on the VWAP on the date Holder requests such unlegended Shares be delivered pursuant to this **Section 6(d)**) subject to the request, $10 per Business Day (increasing to $20 per Business Day on the third Business Day after the Legend Removal Date) for each Business Day after the Legend Removal Date until such certificate or book-entry position is delivered without a restrictive or other legend or such Underlying Shares are delivered to an account designated by the Holder and (ii) if the Company fails to (a) issue and deliver (or cause to be delivered) to the Holder by the Legend Removal Date a certificate or book-entry position representing the Underlying Shares to be delivered to such Holder that is free from all restrictive and other legends or to deliver Underlying Shares to an account designated by such Holder and (b) if after the Legend Removal Date such Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by such Holder of all or any portion of the number of shares of Common Stock, or a sale of a number of shares of Common Stock equal to all or any portion of the number of Underlying Shares that such Holder anticipated receiving from the Company without any restrictive legend, then an amount equal to the excess of such Holder's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (including brokerage commissions and other out-of-pocket expenses, if any) (the "***Buy-In Price***") over the product of (A) such number of Underlying Shares that the Company was required to deliver to Holder by the Legend Removal Date multiplied by (B) the lowest closing sale price of the Common Stock on the Exchange on any Business Day during the period commencing on the date of such Holder's request to the Company to deliver the applicable Underlying Shares (or, if applicable, the date such Holder delivers to the Company or its transfer agent the certificate representing the applicable Underlying Shares) and ending on the date of such delivery and payment under this paragraph.

Section 7. <u>Adjustments; Fundamental Changes</u>.

(a) If the Company shall at any time prior to the expiration of this Warrant (i) pay a stock dividend or otherwise make a distribution or distributions on shares of Common Stock or any other equity or equity securities, (ii) subdivide the Common Stock (by stock split, recapitalization, or any other similar event) into a larger number of shares, (iii) combine the Common Stock (by stock split or reverse stock split, recapitalization, combination of shares, or any other similar event) or (iv) issue by reclassification of shares of Common Stock any shares of capital stock of the Company (with the exception of any reclassification that constitutes a Fundamental Change, as hereinafter defined), then in each such case the applicable Exercise Price

shall be adjusted by multiplying such Exercise Price in effect immediately prior to (x) the record date for the determination of stockholders entitled to receive such dividend or distribution or (y) the effective date in the case of a subdivision, combination or re-classification by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the Aggregate Exercise Price shall remain unchanged. Before taking any action which would result in an adjustment in the number of Underlying Shares for which this Warrant is exercisable or to the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(b) If the Company shall at any time prior to the expiration of this Warrant (in each case, occurring after the date hereof) be a party to any merger, consolidation, exchange of shares of Common Stock, sale of a majority of the Common Stock, sale of all or substantially all of the assets of the Company, separation, reorganization, recapitalization, winding up or liquidation of the Company, or other similar event or transaction (each, a "***Fundamental Change***"), as a result of which shares of Common Stock shall be exchanged or converted into the same or a different number or class or classes of securities of the Company or another entity, or the holders of shares of Common Stock are entitled to receive cash or other property, then, upon the Exercise of this Warrant by the Holder, such Holder shall receive, for the Aggregate Exercise Price as in effect immediately prior to such Fundamental Change (subject to all other adjustments under this Warrant), the aggregate number of shares or such other securities, cash or other property which such Holder would have received if this Warrant had been exercised immediately prior to such Fundamental Change (collectively, the "***Fundamental Change Receivable***"), which, upon the Holder's election, may be received net of the Aggregate Exercise Price (for the avoidance of doubt, without payment by the Holder of any cash in an amount equal to the then-applicable Exercise Price). In the case of any Fundamental Change, the successor, acquirer or resulting parent entity in such merger, consolidation, exchange of shares of Common Stock, sale of all or substantially all of the assets of the Company or reorganization (if other than the Company) (the "***Successor***") shall duly execute and deliver to the Holder a supplement to this Warrant acknowledging the Successor's obligations under this **Section 7(b)**. The terms of this Warrant shall be applicable to the Fundamental Change Receivable due to the Holder upon the consummation of any such Fundamental Change. Notwithstanding the foregoing, in the event of a Fundamental Change that results in a Change in Control (as defined below), if at the time of the consummation of such Fundamental Change the Fair Market Value of an Exercise Share is greater than the Exercise Price, then this Warrant shall automatically be exercised pursuant to a Cashless Exercise, provided that for purposes of this sentence, the Fair Market Value shall be equal to the price per Underlying Share that is being paid to the stockholders of the Company in respect thereof in connection with the consummation of such Fundamental Change. A "***Change in Control***" means any (i) merger, consolidation or reorganization or other similar transaction or series of related transactions which results in the holders of the voting securities of the Company outstanding immediately prior thereto representing the owners, either directly or indirectly, of 50% or less of the combined voting power of the voting securities of and economic interests in the Company or such surviving or acquiring entity outstanding immediately after such merger, consolidation or reorganization; (ii) the distribution of assets (by any method) to the holders of the Company's equity securities following the completion of a sale, lease, exclusive license, transfer,

conveyance or other disposition of all or substantially all of the assets of the Company; or (iii) sale of shares of equity securities of the Company by then-existing stockholders of the Company, in a single transaction or series of related transactions to a single person or entity, representing at least 50% of the voting power of the voting securities of and economic interests in the Company; provided, that with respect to **subsections (i)** and **(iii)** hereof, options and value appreciation or similar rights shall be excluded from such calculations for all purposes.

(c) If the Company, at any time while this Warrant is outstanding, shall otherwise distribute to all holders of Common Stock (and not to the Holder or Holders) evidences of its indebtedness or assets (including cash and cash dividends) or rights or warrants to subscribe for or purchase any security, then in each such case the applicable Exercise Price shall be adjusted by multiplying such Exercise Price in effect immediately prior to the record date fixed for determination of stockholders entitled to receive such distribution by a fraction, the numerator of which shall be the VWAP on such record date less the then Fair Market Value at such record date of the portion of such assets or evidence of indebtedness so distributed applicable to one outstanding share of Common Stock, and the denominator of which shall be the VWAP determined as of the record date mentioned above. Such adjustment shall be made whenever any such distribution is made and shall become effective immediately after the record date mentioned above.

(d) Not less than five (5) days prior to the record date or effective date, as the case may be, of any event which requires or might require an adjustment or readjustment pursuant to **Section 7(a)**, **Section 7(c)** or **Section 7(g)** (each, an "***Adjustment Event***"), and not less than ten (10) days prior to the record date or effective date, as the case may be, of any Fundamental Change, the Company shall give written notice of such Adjustment Event or Fundamental Change (as applicable) to the Holder or Holders, describing such Adjustment Event or Fundamental Change in reasonable detail and specifying the record date or effective date, as the case may be. Such notice shall additionally include the Company's certification of the following computations, as applicable, each of which shall have been made by the Company in good faith: (i) in the case of an Adjustment Event, if determinable, the required adjustment and the computation thereof or, if the required adjustment is not determinable at the time of such notice, the Company shall give notice to the Holder or Holders of such adjustment and computation promptly after such adjustment becomes determinable, and (ii) in the case of a Fundamental Change, the number of shares or such other securities, cash or other property which is payable to the Holder or Holders upon the Fundamental Change, the computation thereof, and the computation of the then applicable Exercise Price. In the event the Company is subject to the reporting requirements of the Exchange Act, to the extent that any notice provided pursuant to this **Section 7(d)** contains material, non-public information regarding the Company, the Company shall either disclose such information regarding the Company in a Current Report on Form 8-K and file such Current Report on Form 8-K with the SEC or issue a press release over a national newswire service that is intended to efficiently reach the financial markets in the United States, in each case, no later than the first Trading Day following the date such notice is delivered to the Holder.

(e) Notwithstanding any other provision hereof, if an Exercise of all or any portion of this Warrant is to be made in connection with a Fundamental Change or a public offering, such Exercise may, at the election of the Holder, be conditioned upon the consummation of such transaction, in which case such Exercise shall not be deemed to be effective until immediately prior to the consummation of such transaction.

(f) At all times on and prior to the Expiration Date, the Company shall at all times reserve and keep available out of its authorized but unissued Common Stock (or other equity interests then constituting Underlying Shares), solely for the purpose of issuance upon the Exercise of this Warrant, the maximum number of Underlying Shares issuable upon the Exercise of this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of executing stock certificates or effectuating the book entry of uncertificated shares to execute and issue, or enter, the necessary certificates or book entries (as applicable) for the Underlying Shares upon the Exercise of the purchase rights under this Warrant. The Company shall not increase the par value of any Underlying Shares receivable upon the Exercise of this Warrant above the Exercise Price then in effect, and shall take all such actions within its power as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable Underlying Shares upon the Exercise of this Warrant.

(g) If any event of the type contemplated by the provisions of this **Section 7** but not expressly provided for by such provisions occurs, then the Board of Directors of the Company shall make an appropriate adjustment in the Exercise Price and the number of Underlying Shares issuable upon Exercise of this Warrant so as to protect the rights of the Holder in a manner consistent with the provisions of this **Section 7**; provided, that no such adjustment pursuant to this **Section 7(g)** shall increase the Exercise Price or decrease the number of Underlying Shares issuable as otherwise determined pursuant to this **Section 7**.

Section 8. Transfer of Warrant. Subject to compliance with applicable federal and state securities laws, the Holder may, from time to time, transfer this Warrant or the Underlying Shares, in each case, in whole or in part, by giving the Company a written notice of the portion of the Warrant or the shares of the Underlying Shares being transferred, such notice to set forth the name, address and taxpayer identification number of the transferee, the anticipated date of such transfer, and surrendering this Warrant or the certificates or book-entry records representing shares of the Underlying Shares, as applicable, to the Company for reissuance to the transferee(s). Upon surrender of this Warrant by a Holder to the Company for transfer, in whole or in part, the Company shall issue a new warrant to such Holder in such denomination as shall be requested by such Holder covering the number of Underlying Shares, if any, in respect of which this Warrant shall not have been transferred. Such new warrant shall be identical in all other respects to this Warrant. This Warrant may be divided or combined with other Warrants upon presentation hereof at the office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with this **Section 8** as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated as of the Initial Issuance Date and shall be identical to this Warrant except as to the number of Underlying Shares issuable pursuant thereto.

Section 9. No Impairment. The Company may not, including, without limitation, by amendment of its certificate of incorporation or bylaws, or through a Fundamental Change or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and the Company shall at all times in good faith assist in the carrying out of all

such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Holder or Holders against impairment. Without limiting the generality of the foregoing, the Company shall take (a) all such action as may be necessary or appropriate in order that the Company may duly and validly issue fully paid and non-assessable Underlying Shares, free from any taxes, liens, charges and preemptive rights, upon the Exercise of this Warrant, and (b) use its best efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be necessary to enable the Company to perform its obligations under this Warrant.

Section 10. **No Rights or Liabilities as a Stockholder**. This Warrant shall not entitle the Holder or Holders hereof to any voting rights or other rights as a stockholder of the Company with respect to the Underlying Shares prior to the Exercise of the Warrant. No provision of this Warrant, in the absence of affirmative action by the Holder or Holders to purchase the Underlying Shares, and no mere enumeration herein of the rights or privileges of the Holder or Holders, shall give rise to any liability of such Holder or Holders for the Exercise Price or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

Section 11. **Representations and Warranties of the Company**. The Company hereby represents and warrants:

(a) As of the Initial Issuance Date, the Company (A) is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware, (B) has all requisite power and authority to own and operate its properties, to carry on its business as now conducted and as currently proposed to be conducted, to issue and enter into the Warrant and to carry out the transactions contemplated thereby, and (C) except where the failure to do so, individually or in the aggregate, has not had, and could not be reasonably expected to have, a material adverse effect on the business, assets, financial condition or operations of the Company, is qualified to do business and, where applicable is in good standing, in every jurisdiction where such qualification is required.

(b) This Warrant is, and any Warrant issued in substitution for or replacement of this Warrant (including pursuant to **Section 15**) shall be, upon issuance, duly authorized and validly issued. This Warrant constitutes, and any Warrant issued in substitution for or replacement of this Warrant shall be, upon issuance, a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency or other similar laws affecting the enforcement of creditors' rights generally and by general principles of equity.

(c) As of the Initial Issuance Date, the execution, delivery and performance by the Company of the Warrant does not and will not (A) violate any material provision of applicable law or the organizational documents of the Company, (B) conflict with, result in a breach of, or constitute (with the giving of any notice, the passage of time, or both) a default under any material agreement of the Company or (C) result in or require the creation or imposition of any lien upon any assets of the Company.

Section 12. Successors. All the covenants and provisions of this Warrant by or for the benefit of the Company or the Holder or Holders shall bind and inure to the benefit of their respective successors and assigns.

Section 13. Survival. The rights of the Holder or Holders under this Warrant, and the covenants and agreements of the Company set forth in this Warrant for the benefit of the Holder or Holders, shall survive Exercise of all or any portion of this Warrant and shall inure to the Holder or Holders of any Underlying Shares.

Section 14. Remedies. If the Company violates, breaches or defaults under this Warrant, the Holder may seek to protect and enforce its rights by any action at law, suit in equity or other appropriate proceeding, whether for specific performance of any agreement contained in this Warrant, or for an injunction against a violation of any of the terms hereof, or in and of the Exercise of any power granted hereby or by law, in each case without providing any bond or other security in connection with such action, suit or other proceeding. In case of any violation, breach or default under this Warrant, the Company shall pay to the Holder on demand all reasonable costs and expenses of enforcing the Holder's rights under this Warrant, including, without limitation, reasonable attorneys' fees and legal expenses.

Section 15. Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon its receipt of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Underlying Shares (and, in the case of mutilation, the surrender and cancellation of this Warrant or such stock certificate), the Company shall make and deliver to the Holder a new Warrant or stock certificate that is identical to this Warrant or to such stock certificate (as applicable).

Section 16. Tax Treatment. No later than sixty (60) days after the Initial Issuance Date, the Purchaser shall provide the Company with a valuation of the Warrant for tax purposes (the "***Proposed Valuation***"). If the Company disagrees with the Proposed Valuation, it shall propose reasonable comments to the Proposed Valuation within fifteen (15) days of receiving the Proposed Valuation, and the Purchaser shall consider such comments in good faith. If the parties cannot agree as to the Proposed Valuation within ninety (90) days after the Initial Issuance Date after good faith discussion, an independent valuation firm shall be engaged (at the Company's expense) to provide the Company and the Purchaser with a final valuation of the Warrant for tax purposes (the "***Final Valuation***") within thirty (30) days of its engagement, and such Final Valuation shall be binding on Purchaser and the Company for all U.S. tax purposes.

Section 17. Article and Section Headings. Numbered and titled article and section headings are for convenience only and shall not be construed as amplifying or limiting any of the provisions of this Warrant.

Section 18. Notice. Any and all notices, elections or demands permitted or required to be made under this Warrant shall be in writing, signed by the party giving such notice, election or demand and shall be delivered in accordance with the notice provisions in the Credit Agreement.

Section 19. Severability. If any provisions(s) of this Warrant or the application thereof to any person or circumstances shall be invalid or unenforceable to any extent, the remainder of this Warrant and the application of such provisions to other persons or circumstances shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

Section 20. Entire Agreement. This Warrant and the Fifth Amended and Restated Investors' Rights Agreement, dated as of June 9, 2021, by and among the Company and certain investors and holders party thereto (as modified by the Joinder Agreement, dated as of the date hereof, between the Company and the Holder, and as such has been and may be further amended, restated, supplemented, amended and restated or otherwise modified from time to time), represents the entire agreement between the parties concerning the subject matter hereof, and all oral discussions and prior agreement are merged herein.

Section 21. Valuation Dispute Resolution. In the case of any dispute as to the determination of any amount or valuation hereunder or in connection with the amount or value of any Common Stock or Underlying Shares to be issued, withheld or otherwise determined, the calculation of the Aggregate Exercise Price or any other computation or valuation required to be made hereunder or in connection herewith, in the event the Holder, on the one hand, and the Company, on the other hand, are unable to settle such dispute within five (5) Business Days, then either party may elect to submit the disputed matter(s) for resolution by an independent accounting firm of nationally recognized standing as may be mutually agreed upon by the Holder and the Company. Such firm's determination of such disputed matter(s) shall be binding upon all parties absent demonstrable error, and the Company and the Holder shall each pay one half of the fees and costs of such firm.

Section 22. Governing Law. This Warrant and the rights and obligations of the parties hereunder, and any claims, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Warrant and the transactions contemplated hereby shall be governed by, and construed in accordance with, the law of the State of New York.

Section 23. Jurisdiction; Waiver of Venue; Service of Process.

(a) Each party hereto irrevocably and unconditionally agrees that it will not commence any action, litigation or proceeding of any kind or description, whether in law or equity, whether in contract or in tort or otherwise, against any other party hereto in any way relating to this Warrant or the transactions relating hereto, in any forum other than the courts of the State of New York sitting in New York County, and of the United States District Court of the Southern District of New York, and any appellate court from any thereof; and each of the parties hereto irrevocably and unconditionally submits to the jurisdiction of such courts and agrees that all claims in respect of any such action, litigation or proceeding may be heard and determined in such New York State court or, to the fullest extent permitted by applicable law, in such federal court. Each of the parties hereto agrees that a final judgment in any such action, litigation or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(b) Each party hereto irrevocably and unconditionally waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any action or proceeding arising out of or relating to this Agreement in any court referred to in paragraph (a) of this **Section 23**. Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

(c) Each party hereto irrevocably consents to service of process in the manner provided for notices in **Section 18**.

Section 24. Amendment. No amendment or modification hereof shall be effective except in a writing executed by the Company and the Holder.

Section 25. Counterparts. This Warrant may be executed in any number of counterparts (including electronic imaging means), each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same Warrant. Delivery of an executed signature page of this Warrant by electronic transmission (e.g., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart hereof.

Section 26. Waiver of Jury Trial. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS WARRANT OR THE TRANSACTIONS CONTEMPLATED HEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PERSON HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PERSON WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HERETO HAVE BEEN INDUCED TO ENTER INTO THIS WARRANT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS **SECTION 26**.

IN WITNESS WHEREOF, the parties hereto have set their hands as of the date first above written.

COMPANY:

FRACTYL HEALTH, INC.

By _____
Name:
Title:

PURCHASER:

[•]

By: [•]

By: _____
Name:
Title:

[*Signature Page to Warrant*]

FIRST AMENDMENT TO CREDIT AGREEMENT AND GUARANTY

This FIRST AMENDMENT TO CREDIT AGREEMENT AND GUARANTY (this "***Amendment***") is entered into as of October 16, 2023, by and among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the lenders party hereto, and SYMBIOTIC CAPITAL AGENCY LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

RECITALS

WHEREAS, the parties hereto are parties to that certain Credit Agreement and Guaranty dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time prior to the date hereof, the "***Agreement***") by and among the Borrower, the Guarantors party thereto from time to time, the Lenders party thereto from time to time and the Administrative Agent.

WHEREAS, the Borrower has requested that the Majority Lenders and the Administrative Agent agree to make certain amendments to the Agreement, subject to the terms and conditions contained herein.

NOW, THEREFORE, the parties agree as follows:

1. The following defined terms in Section 1.01 of the Agreement hereby are amended and restated as follows:

> ***"Milestone"*** means that the Borrower shall have provided evidence satisfactory to Administrative Agent that (a) the Borrower has received Qualified Financing Proceeds of at least $40,000,000 during the period commencing as of the Closing Date and on or prior to February 15, 2024, (b) at least $10,000,000 of such $40,000,000 of Qualified Financing Proceeds were received by the Borrower on or prior to December 15, 2023, and (c) the Borrower has received Qualified Financing Proceeds of at least $100,000,000 (inclusive of such Qualified Financing Proceeds in **clause (a)** above) during the period commencing as of the Closing Date and prior to June 30, 2024.
>
> ***"Qualified Equity Financing"*** means any primary equity financing, or series of financings (including, for the avoidance of doubt, an initial public offering of the Common Stock of Borrower which results in a listing of such Equity Interests on a Recognized Exchange and any subsequent equity financings pursuant to which the Borrower sells its Common Stock), after the Closing Date by the Borrower to a bona fide third party or third parties in which the Borrower issues Qualified Equity Interests.

2. Section 10.02 of the Agreement hereby is amended and restated as follows:

> "10.02 **Financing Milestone Covenant.** Borrower shall have provided evidence satisfactory to the Administrative Agent that (a) the Borrower received Qualified Financing Proceeds of at least $40,000,000 during the period commencing on the Closing Date and ending on or prior to February 15, 2024, with at least $10,000,000 of such Qualified Financing Proceeds being received by the Borrower on or prior to December 15, 2023, and (b) the Borrower received Qualified Financing Proceeds of at least $100,000,000 (inclusive of such Qualified Financing Proceeds in **clause (a)** above) during the period commencing as of the Closing Date and prior to June 30, 2024."

3. Exhibit E to the Agreement is replaced with Exhibit E attached hereto.

4. No course of dealing on the part of Administrative Agent, Lenders or their officers, nor any failure or delay in the exercise of any right by Administrative Agent or Lenders, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Administrative Agent's or Lenders' failure at any time to require strict performance by Borrower of any provision shall not affect any right of Administrative Agent or Lenders thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Administrative Agent or Lenders, as applicable.

5. Unless otherwise defined, all initially capitalized terms in this Amendment shall be as defined in the Agreement. The Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Administrative Agent or Lenders under the Agreement, as in effect prior to the date hereof. This Amendment shall be a Loan Document.

6. Borrower represents and warrants that (i) the representations and warranties of Borrower contained in the Agreement and in the other Loan Documents are true and correct in all material respects (unless such representations are already qualified by reference to materiality, Material Adverse Effect or similar language, in which case such representations and warranties shall be true and correct in all respects) on and as of the date of this Amendment, except to the extent such representations and warranties specifically relate to an earlier date, in which case such representations and warranties shall have been true and correct in all material respects on and as of such earlier date, and (ii) that no Event of Default has occurred and is continuing.

7. As a condition to the effectiveness of this Amendment, the Administrative Agent and the Majority Lenders shall have received, in form and substance satisfactory to the Administrative Agent and the Majority Lenders, the following:

(a) this Amendment, duly executed by Borrower;

(b) all fees, costs and expenses due and payable to each of the Administrative Agent and the Majority Lenders on or prior to the date of this Amendment and heretofore unpaid, including all reasonable costs and fees and all unpaid reasonable expenses of the Administrative Agent and the Majority Lender incurred in connection with the Amendment (including the Administrative Agent's and the Majority Lender's legal fees and expenses) in each case, to the extent invoiced (or as to which a good faith estimate has been provided to the Borrower) at least two (2) Business Days prior to the date of this Amendment; and

(c) such other documents, and completion of such other matters, as Administrative Agent or Majority Lenders may reasonably deem necessary or appropriate to consummate the transaction contemplated herein.

8. This Amendment may be executed in any number of counterparts (including electronic imaging means), all of which taken together shall constitute one and the same instrument and any of the parties hereto may execute this Amendment by signing any such counterpart. Delivery of an executed signature page of this Amendment by electronic transmission (e.g., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart hereof. The words "execution," "execute", "signed," "signature," and words of like import in or related to any document to be signed in connection with this Amendment and the transactions contemplated hereby shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable Law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

9. This Amendment and the rights and obligations of the parties hereunder shall be governed by, and construed in accordance with, the law of the State of New York, without regard to principles of conflicts of laws that would result in the application of the laws of any other jurisdiction; provided that Section 5-1401 of the New York General Obligations Law shall apply.

10. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AMENDMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

[*Balance of Page Intentionally Left Blank*]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered as of the day and year first above written.

BORROWER:

FRACTYL HEALTH, INC.

By: /s/ Lisa Davidson
Name: Lisa Davidson
Title: Chief Financial Officer and Treasurer

Address for Notices:
17 Hartwell Ave
Lexington, MA 02421
Attn: General Counsel
Phone:
Email:

With copies to:

Latham & Watkins LLP
200 Clarendon Street
Boston, MA 02116
Attn: Evan G. Smith
Phone:
Email:

ADMINISTRATIVE AGENT:

SYMBIOTIC CAPITAL AGENCY LLC

By: /s/ Himani Bhalla
Name: Himani Bhalla
Title: Authorized Signatory

Address for Notices:
Symbiotic Capital Agency LLC, as Administrative Agent
Attn: Himani Bhalla
Email:

With copies to:

Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304-1130
Attn: John Hale
Tel.:
Email:

MAJORITY LENDERS:

SYMBIOTIC CAPITAL OPPORTUNITIES HOLDING, L.P.

By: /s/ Himani Bhalla
Name: Himani Bhalla
Title: Authorized Signatory

Address for Notices:
Symbiotic Capital Agency LLC, as Administrative Agent
Attn: Himani Bhalla
Email:

With copies to:

Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304-1130
Attn: John Hale
Tel.:
Email:

EXHIBIT E

FORM OF COMPLIANCE CERTIFICATE

[DATE]

This certificate is delivered pursuant to **Section 8.01(d)** of the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***"). Capitalized terms used herein and not otherwise defined herein are used herein as defined in the Credit Agreement.

The undersigned, a duly authorized Responsible Officer of the Borrower having the name and title set forth below under his or her signature, hereby certifies (in his or her capacity as an officer of the Borrower and not in his or her individual capacity or with any personal liability), on behalf of the Borrower for the benefit of the Lenders and pursuant to **Section 8.01(d)** of the Credit Agreement that such Responsible Officer of the Borrower is familiar with the Credit Agreement and that, in accordance with each of the following sections of the Credit Agreement, each of the following is true on the date hereof:

[In accordance with **Section 8.01[(b)/(c)]** of the Credit Agreement, attached hereto as Annex A are the financial statements for the [fiscal quarter/fiscal year] ended [•] required to be delivered.] / [The financial statements for the [fiscal quarter/fiscal year] ended [•] required to be furnished pursuant to **Section 8.01**[**(b)/(c)**] of the Credit Agreement are publicly available on "EDGAR" or on the Borrower's website.] Such financial statements fairly present in all material respects the financial condition of the Borrower and its Subsidiaries as at the dates indicated therein and the results of operations of the Borrower and its Subsidiaries for the periods indicated therein and have been prepared in accordance with GAAP consistently applied [(subject to changes resulting from normal, year-end audit adjustments and except for the absence of notes)][1][and shall be permissible to be subject to any "going concern" or like qualifications or exception or emphasis of matter of going concern footnote or any qualification or exception as to the scope of such audit][2].

1. [The Borrower is in compliance with the covenant contained in **Section 10.02(b)** of the Credit Agreement as of the date hereof, and attached hereto as Annex B is evidence (which shall be reasonably satisfactory to the Administrative Agent) that the Borrower is in compliance with the covenant set out in **Section 10.02(b)** of the Credit Agreement.] [3]

2. No Default or Event of Default is continuing as of the date hereof[, except as provided for on Annex C attached hereto, which describes in detail the nature of the condition or event, the period during which it has existed and the action which the Borrower has taken, is taking, or proposes to take with respect to each such condition or event].

3. [Attached hereto as Annex D is an update to the information on Schedule 1 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date (as defined in the Security Agreement)], required to be updated pursuant to **Sections 5(e)** (Location of Collateral), **5(k)** (Inventory), and **5(l)** (Notices, Reports, and Information) of the Security Agreement.]

---

1 Insert language in brackets only for quarterly certifications delivered pursuant to Section 8.01(b) of the Credit Agreement.

2 Insert language in brackets only for quarterly certifications delivered pursuant to Section 8.01(C) of the Credit Agreement.

3 Insert language in brackets only for certifications once the conditions of Section 10.02 of the Credit Agreement have been met, on or prior to June 30, 2024.

4. [Attached hereto as Annex E is an update to the information on Schedule 2 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date], required to be updated pursuant to **Section 3(e)(ii)** (Registered Intellectual Property Collateral) of the Security Agreement.]

5. [Attached hereto as Annex F is an update to the information on Schedule 3 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date (as defined in the Security Agreement)], required to be updated pursuant to **Sections 3(b)** (Pledged Collateral) of the Security Agreement.][4]

6. [Attached hereto as Annex G is a list of all Accounts of any Grantor (as defined in the Security Agreement) in an aggregate amount in excess of $250,000 per fiscal year arising from Contracts with the United States or any department, agency or instrumentality thereof, arising since the [Closing Date][last Quarterly Reporting Date], required to be updated pursuant to **Section 5(i)(ii)** of the Security Agreement.]

7. [Attached hereto as Annex H is a list of all new Material Agreements of any Obligor together with copies thereof, arising since the [Closing Date][last Quarterly Reporting Date].]

8. [In accordance with **Section 8.01(d)** of the Credit Agreement, attached hereto as Annex H are details of any material issues that are raised by auditors and any occurrence or existence of any event, circumstance, act or omission that would cause any representation or warranty contained in **Section 7.07**, **Section 7.17** or **Section 7.21** of the Credit Agreement to be incorrect in any material respect (or in any respect if such representation or warranty is qualified by materiality or by reference to Material Adverse Effect or Material Adverse Change (after giving effect to such qualifier)) if such representation or warranty were to be made at the time of delivery of this Compliance Certificate.]

---

4 To the extent any of the updated information includes certificates or instruments representing Pledged Collateral (as defined in the Security Agreement) with a value in excess of $250,000, such certificates or instruments should be delivered to the Administrative Agent (together with appropriate instruments of transfer or assignment in blank) no later than the Quarterly Reporting Date immediately following the date such certificates or instruments were received by the applicable Grantor. See Section 3(b) of the Security Agreement.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the undersigned has executed this certificate on the date first written above.

FRACTYL HEALTH, INC.

By_____
Name:
Title:

EXHIBIT E-3

ANNEX A TO COMPLIANCE CERTIFICATE

FINANCIAL STATEMENTS

[See attached.]

EXHIBIT E-4

ANNEX B TO COMPLIANCE CERTIFICATE

FINANCING MILESTONE

Section 10.02(b) of the Credit Agreement

	Required	Actual	Complies
[Qualified Financing Proceeds received between Closing Date and December 15, 2023][5]	$ 10,000,000	$	Yes No N/A
[Qualified Financing Proceeds received between Closing Date and February 15, 2024][6]	$ 40,000,000	$	Yes No N/A
Qualified Financing Proceeds received on or after the Closing Date but prior to June 30, 2024	$100,000,000	$	Yes No N/A

5 Prior to Borrower's receipt of Qualified Financing Proceeds of at least $10,000,000 during the period commencing on the Closing Date and ending on or prior to December 15, 2023, to be included only for quarterly reporting delivered pursuant to Section 8.01(b) of the Credit Agreement.

6 Prior to Borrower's receipt of Qualified Financing Proceeds of at least $40,000,000 during the period commencing on the Closing Date and ending on or prior to February 15, 2024, to be included only for quarterly reporting delivered pursuant to Section 8.01(b) of the Credit Agreement.

ANNEX C TO COMPLIANCE CERTIFICATE

DEFAULTS OR EVENTS OF DEFAULT

[IF NEEDED]

EXHIBIT E-6

ANNEX D TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 1 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-7

ANNEX E TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 2 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-8

ANNEX F TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 3 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-9

ANNEX G TO COMPLIANCE CERTIFICATE

GOVERNMENTAL ACCOUNTS

[IF NEEDED]

EXHIBIT E-10

ANNEX H TO COMPLIANCE CERTIFICATE

MATERIAL AGREEMENTS

[IF NEEDED]

EXHIBIT E-11

ANNEX I TO COMPLIANCE CERTIFICATE

COMPLIANCE WITH LAWS AND AGREEMENTS, REGULATORY APPROVALS AND PRIORITY OF OBLIGATIONS

[IF NEEDED]

EXHIBIT E-12

SECOND AMENDMENT TO CREDIT AGREEMENT AND GUARANTY

This SECOND AMENDMENT TO CREDIT AGREEMENT AND GUARANTY (this "***Amendment***") is entered into as of December 9, 2023, by and among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the lenders party hereto, and SYMBIOTIC CAPITAL AGENCY LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***").

RECITALS

WHEREAS, the parties hereto are parties to that certain Credit Agreement and Guaranty dated as of September 7, 2023 (as amended by that certain First Amendment to Credit Agreement and Guaranty dated as of October 16, 2023, and as further amended, restated, amended and restated, supplemented or otherwise modified from time to time prior to the date hereof, the "***Agreement***") by and among the Borrower, the Guarantors party thereto from time to time, the Lenders party thereto from time to time and the Administrative Agent.

WHEREAS, the Borrower has requested that the Majority Lenders and the Administrative Agent agree to make certain amendments to the Agreement, subject to the terms and conditions contained herein.

NOW, THEREFORE, the parties agree as follows:

1. The following defined terms in Section 1.01 of the Agreement hereby are amended and restated as follows:

> ***"Milestone"*** means that the Borrower shall have provided evidence satisfactory to Administrative Agent that (a) the Borrower has received Qualified Financing Proceeds of at least $40,000,000 during the period commencing as of the Closing Date and on or prior to February 15, 2024, (b) at least $10,000,000 of such $40,000,000 of Qualified Financing Proceeds were received by the Borrower on or prior to January 16, 2024 (such date to be automatically extended to February 15, 2024, upon the Borrower's filing of a registration statement on Form S-1 under the Securities Act on or prior to December 31, 2023, in connection with a Qualified IPO), and (c) the Borrower has received Qualified Financing Proceeds of at least $100,000,000 (inclusive of such Qualified Financing Proceeds in **clause (a)** above) during the period commencing as of the Closing Date and prior to June 30, 2024.

2. Section 10.02 of the Agreement hereby is amended and restated as follows:

> "10.02 **Financing Milestone Covenant.** Borrower shall have provided evidence satisfactory to the Administrative Agent that (a) the Borrower received Qualified Financing Proceeds of at least $40,000,000 during the period commencing on the Closing Date and ending on or prior to February 15, 2024, with at least $10,000,000 of such Qualified Financing Proceeds being received by the Borrower on or prior to January 16, 2024 (such date to be automatically extended to February 15, 2024, upon the Borrower's filing of a registration statement on Form S-1 under the Securities Act on or prior to December 31, 2023, in connection with a Qualified IPO), and (b) the Borrower received Qualified Financing Proceeds of at least $100,000,000 (inclusive of such Qualified Financing Proceeds in **clause (a)** above) during the period commencing as of the Closing Date and prior to June 30, 2024."

3. Exhibit E to the Agreement is replaced with Exhibit E attached hereto.

4. No course of dealing on the part of Administrative Agent, Lenders or their officers, nor any failure or delay in the exercise of any right by Administrative Agent or Lenders, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Administrative Agent's or Lenders' failure at any time to require strict performance by Borrower of any provision shall not affect any right of Administrative Agent or Lenders thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Administrative Agent or Lenders, as applicable.

5. Unless otherwise defined, all initially capitalized terms in this Amendment shall be as defined in the Agreement. The Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Administrative Agent or Lenders under the Agreement, as in effect prior to the date hereof. This Amendment shall be a Loan Document.

6. Borrower represents and warrants that (i) the representations and warranties of Borrower contained in the Agreement and in the other Loan Documents are true and correct in all material respects (unless such representations are already qualified by reference to materiality, Material Adverse Effect or similar language, in which case such representations and warranties shall be true and correct in all respects) on and as of the date of this Amendment, except to the extent such representations and warranties specifically relate to an earlier date, in which case such representations and warranties shall have been true and correct in all material respects on and as of such earlier date, and (ii) that no Event of Default has occurred and is continuing.

7. As a condition to the effectiveness of this Amendment, the Administrative Agent and the Majority Lenders shall have received, in form and substance satisfactory to the Administrative Agent and the Majority Lenders, the following:

(a) this Amendment, duly executed by Borrower;

(b) all fees, costs and expenses due and payable to each of the Administrative Agent and the Majority Lenders on or prior to the date of this Amendment and heretofore unpaid, including all reasonable costs and fees and all unpaid reasonable expenses of the Administrative Agent and the Majority Lender incurred in connection with the Amendment (including the Administrative Agent's and the Majority Lender's legal fees and expenses) in each case, to the extent invoiced (or as to which a good faith estimate has been provided to the Borrower) at least two (2) Business Days prior to the date of this Amendment; and

(c) such other documents, and completion of such other matters, as Administrative Agent or Majority Lenders may reasonably deem necessary or appropriate to consummate the transaction contemplated herein.

8. This Amendment may be executed in any number of counterparts (including electronic imaging means), all of which taken together shall constitute one and the same instrument and any of the parties hereto may execute this Amendment by signing any such counterpart. Delivery of an executed signature page of this Amendment by electronic transmission (e.g., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart hereof. The words "execution," "execute", "signed," "signature," and words of like import in or related to any document to be signed in connection with this Amendment and the transactions contemplated hereby shall be deemed to include electronic signatures, the electronic matching of assignment terms and contract formations on electronic platforms approved by the Administrative Agent, or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature or the use of a paper-based recordkeeping

system, as the case may be, to the extent and as provided for in any applicable Law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

9. This Amendment and the rights and obligations of the parties hereunder shall be governed by, and construed in accordance with, the law of the State of New York, without regard to principles of conflicts of laws that would result in the application of the laws of any other jurisdiction; provided that Section 5-1401 of the New York General Obligations Law shall apply.

10. EACH PARTY HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AMENDMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

[*Balance of Page Intentionally Left Blank*]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered as of the day and year first above written.

BORROWER:

FRACTYL HEALTH, INC.

By: /s/ Lisa Davidson
Name: Lisa Davidson
Title: Chief Financial Officer and Treasurer

Address for Notices:
17 Hartwell Ave
Lexington, MA 02421
Attn: General Counsel
Phone: (781) 208 - 0735
Email: stoomey@fractyl.com

With copies to:
Latham & Watkins LLP
200 Clarendon Street
Boston, MA 02116
Attn: Evan G. Smith
Phone: (617) 948-6089
Email: evan.smith@lw.com

ADMINISTRATIVE AGENT:

SYMBIOTIC CAPITAL AGENCY LLC

By: /s/ Himani Bhalla
Name: Himani Bhalla
Title: Authorized Signatory

Address for Notices:
Symbiotic Capital Agency LLC, as Administrative Agent
2049 Century Park East, Suite 1940
Los Angeles, CA 90067
Attn: Himani Bhalla
Email: Himani@symbcap.com

With copies to:
Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304-1130
Attn: John Hale
Tel.: (650) 843-5420
Email: jhale@cooley.com

MAJORITY LENDERS:

SYMBIOTIC CAPITAL OPPORTUNITIES HOLDING, L.P.

By: /s/ Himani Bhalla
Name: Himani Bhalla
Title: Authorized Signatory

Address for Notices:
Symbiotic Capital Agency LLC, as Administrative Agent
2049 Century Park East, Suite 1940
Los Angeles, CA 90067
Attn: Himani Bhalla
Email: Himani@symbcap.com

With copies to:
Cooley LLP
3175 Hanover Street
Palo Alto, CA 94304-1130
Attn: John Hale
Tel.: (650) 843-5420
Email: jhale@cooley.com

EXHIBIT E

FORM OF COMPLIANCE CERTIFICATE

[DATE]

This certificate is delivered pursuant to **Section 8.01(d)** of the Credit Agreement and Guaranty, dated as of September 7, 2023 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "***Credit Agreement***"), among FRACTYL HEALTH, INC., a Delaware corporation (the "***Borrower***"), the Guarantors from time to time party thereto, the Lenders from time to time party thereto and Symbiotic Capital Agency LLC, as administrative agent for the Lenders (in such capacity, the "***Administrative Agent***"). Capitalized terms used herein and not otherwise defined herein are used herein as defined in the Credit Agreement.

The undersigned, a duly authorized Responsible Officer of the Borrower having the name and title set forth below under his or her signature, hereby certifies (in his or her capacity as an officer of the Borrower and not in his or her individual capacity or with any personal liability), on behalf of the Borrower for the benefit of the Lenders and pursuant to **Section 8.01(d)** of the Credit Agreement that such Responsible Officer of the Borrower is familiar with the Credit Agreement and that, in accordance with each of the following sections of the Credit Agreement, each of the following is true on the date hereof:

[In accordance with **Section 8.01[(b)/(c)]** of the Credit Agreement, attached hereto as Annex A are the financial statements for the [fiscal quarter/fiscal year] ended [•] required to be delivered.] / [The financial statements for the [fiscal quarter/fiscal year] ended [•] required to be furnished pursuant to **Section 8.01**[**(b)/(c)**] of the Credit Agreement are publicly available on "EDGAR" or on the Borrower's website.] Such financial statements fairly present in all material respects the financial condition of the Borrower and its Subsidiaries as at the dates indicated therein and the results of operations of the Borrower and its Subsidiaries for the periods indicated therein and have been prepared in accordance with GAAP consistently applied [(subject to changes resulting from normal, year-end audit adjustments and except for the absence of notes)][1][and shall be permissible to be subject to any "going concern" or like qualifications or exception or emphasis of matter of going concern footnote or any qualification or exception as to the scope of such audit][2].

1. [The Borrower is in compliance with the covenant contained in **Section 10.02(b)** of the Credit Agreement as of the date hereof, and attached hereto as Annex B is evidence (which shall be reasonably satisfactory to the Administrative Agent) that the Borrower is in compliance with the covenant set out in **Section 10.02(b)** of the Credit Agreement.] [3]

2. No Default or Event of Default is continuing as of the date hereof[, except as provided for on Annex C attached hereto, which describes in detail the nature of the condition or event, the period during which it has existed and the action which the Borrower has taken, is taking, or proposes to take with respect to each such condition or event].

3. [Attached hereto as Annex D is an update to the information on Schedule 1 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date (as defined in the Security Agreement)], required to be updated pursuant to **Sections 5(e)** (Location of Collateral), **5(k)** (Inventory), and **5(l)** (Notices, Reports, and Information) of the Security Agreement.]

---

1 Insert language in brackets only for quarterly certifications delivered pursuant to Section 8.01(b) of the Credit Agreement.

2 Insert language in brackets only for quarterly certifications delivered pursuant to Section 8.01(C) of the Credit Agreement.

3 Insert language in brackets only for certifications once the conditions of Section 10.02 of the Credit Agreement have been met, on or prior to June 30, 2024.

4. [Attached hereto as Annex E is an update to the information on Schedule 2 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date], required to be updated pursuant to **Section 3(e)(ii)** (Registered Intellectual Property Collateral) of the Security Agreement.]

5. [Attached hereto as Annex F is an update to the information on Schedule 3 to the Security Agreement since the [Closing Date][last Quarterly Reporting Date (as defined in the Security Agreement)], required to be updated pursuant to **Sections 3(b)** (Pledged Collateral) of the Security Agreement.][4]

6. [Attached hereto as Annex G is a list of all Accounts of any Grantor (as defined in the Security Agreement) in an aggregate amount in excess of $250,000 per fiscal year arising from Contracts with the United States or any department, agency or instrumentality thereof, arising since the [Closing Date][last Quarterly Reporting Date], required to be updated pursuant to **Section 5(i)(ii)** of the Security Agreement.]

7. [Attached hereto as Annex H is a list of all new Material Agreements of any Obligor together with copies thereof, arising since the [Closing Date][last Quarterly Reporting Date].]

8. [In accordance with **Section 8.01(d)** of the Credit Agreement, attached hereto as Annex H are details of any material issues that are raised by auditors and any occurrence or existence of any event, circumstance, act or omission that would cause any representation or warranty contained in **Section 7.07**, **Section 7.17** or **Section 7.21** of the Credit Agreement to be incorrect in any material respect (or in any respect if such representation or warranty is qualified by materiality or by reference to Material Adverse Effect or Material Adverse Change (after giving effect to such qualifier)) if such representation or warranty were to be made at the time of delivery of this Compliance Certificate.]

[*Signature Page Follows*]

---

4 To the extent any of the updated information includes certificates or instruments representing Pledged Collateral (as defined in the Security Agreement) with a value in excess of $250,000, such certificates or instruments should be delivered to the Administrative Agent (together with appropriate instruments of transfer or assignment in blank) no later than the Quarterly Reporting Date immediately following the date such certificates or instruments were received by the applicable Grantor. See Section 3(b) of the Security Agreement.

IN WITNESS WHEREOF, the undersigned has executed this certificate on the date first written above.

FRACTYL HEALTH, INC.

By _____
Name:
Title:

EXHIBIT E-3

ANNEX A TO COMPLIANCE CERTIFICATE

FINANCIAL STATEMENTS

[See attached.]

EXHIBIT E-4

ANNEX B TO COMPLIANCE CERTIFICATE

FINANCING MILESTONE

Section 10.02(b) of the Credit Agreement

	Required	Actual	Complies
[Qualified Financing Proceeds received between Closing Date and January 16, 2024][5]	$ 10,000,000	$	Yes No N/A
[Qualified Financing Proceeds received between Closing Date and February 15, 2024][6]	$ 40,000,000	$	Yes No N/A
Qualified Financing Proceeds received on or after the Closing Date but prior to June 30, 2024	$100,000,000	$	Yes No N/A

5 Prior to Borrower's receipt of Qualified Financing Proceeds of at least $10,000,000 during the period commencing on the Closing Date and ending on or prior to January 16, 2024 (such date to be automatically extended to February 15, 2024, upon the Borrower's filing of a registration statement on Form S-1 under the Securities Act on or prior to December 31, 2023, in connection with a Qualified IPO), to be included only for quarterly reporting delivered pursuant to Section 8.01(b) of the Credit Agreement.

6 Prior to Borrower's receipt of Qualified Financing Proceeds of at least $40,000,000 during the period commencing on the Closing Date and ending on or prior to February 15, 2024, to be included only for quarterly reporting delivered pursuant to Section 8.01(b) of the Credit Agreement.

ANNEX C TO COMPLIANCE CERTIFICATE

DEFAULTS OR EVENTS OF DEFAULT

[IF NEEDED]

EXHIBIT E-6

ANNEX D TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 1 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-7

ANNEX E TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 2 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-8

ANNEX F TO COMPLIANCE CERTIFICATE

UPDATES TO SCHEDULE 3 TO THE SECURITY AGREEMENT

[IF NEEDED]

EXHIBIT E-9

ANNEX G TO COMPLIANCE CERTIFICATE

GOVERNMENTAL ACCOUNTS

[IF NEEDED]

EXHIBIT E-10

ANNEX H TO COMPLIANCE CERTIFICATE

MATERIAL AGREEMENTS

[IF NEEDED]

EXHIBIT E-11

ANNEX I TO COMPLIANCE CERTIFICATE

COMPLIANCE WITH LAWS AND AGREEMENTS, REGULATORY APPROVALS AND PRIORITY OF OBLIGATIONS

[IF NEEDED]

EXHIBIT E-12

Exhibit 10.4

Fractyl Health, Inc.

2011 Stock Incentive Plan

(as amended and restated June 9, 2021)

1. Purpose

The purpose of this 2011 Stock Incentive Plan (the "Plan") of Fractyl Health, Inc., a Delaware corporation (the "Company"), is to advance the interests of the Company's stockholders by enhancing the Company's ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company's stockholders. Except where the context otherwise requires, the term "Company" shall include any of the Company's present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code") and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the "Board").

2. Eligibility

All of the Company's employees, officers, directors, consultants and advisors are eligible to be granted options, restricted stock, restricted stock units and other stock-based awards (each, an "Award") under the Plan. Each person who receives an Award under the Plan is deemed a "Participant."

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board's sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award. No director or person acting pursuant to the authority delegated by the Board shall be liable for any action or determination relating to or under the Plan made in good faith.

(b) Appointment of Committees. To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a "Committee"). All references in the Plan to the "Board" shall mean the Board or a Committee of the Board to the extent that the Board's powers or authority under the Plan have been delegated to such Committee.

4. Stock Available for Awards.

(a) Number of Shares. Subject to adjustment under Section 8, Awards may be made under the Plan for up to 25,740,000 shares of common stock, $0.00001 par value per share, of the Company (the "Common Stock"). If any Award expires or is terminated, surrendered or canceled without having been fully exercised, is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right), or results in any Common Stock not being issued, the unused Common Stock covered by such Award shall again be available for the grant of Awards under the Plan. Further, shares of Common Stock tendered to the Company by a Participant to exercise an Award shall be added to the number of shares of Common Stock available for the grant of Awards under the Plan. However, in the case of Incentive Stock Options (as hereinafter defined), the foregoing provisions shall be subject to any limitations under the Code. Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(b) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof ("Substitute Awards"). Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a), except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an "Option") and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable. An Option that is not intended to be an Incentive Stock Option (as hereinafter defined) shall be designated a "Nonstatutory Stock Option".

(b) Incentive Stock Options. An Option that the Board intends to be an "incentive stock option" as defined in Section 422 of the Code (an "Incentive Stock Option") shall only be granted to employees of the Company, any of the Company's present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or for any action taken by the Board, including without limitation the conversion of an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify the exercise price in the applicable option agreement. The exercise price shall be not less than 100% of the Fair Market Value (as defined below) on the date the Option is granted.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement.

(e) Exercise of Option. Options may be exercised by delivery to the Company of a written notice of exercise signed by the proper person or by any other form of notice (including electronic notice) approved by the Board together with payment in full as specified in Section 5(f) for the number of shares for which the Option is exercised. Shares of Common Stock subject to the Option will be delivered by the Company as soon as practicable following exercise.

(f) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash or by check, payable to the order of the Company;

(2) when the Common Stock is registered under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), except as may otherwise be provided in the applicable option agreement, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) when the Common Stock is registered under the Exchange Act and to the extent provided for in the applicable option agreement or approved by the Board, in its sole discretion, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the Participant valued at their fair market value as determined by (or in a manner approved by) the Board ("Fair Market Value"), provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be established by the Board in its discretion and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent permitted by applicable law and provided for in the applicable option agreement or approved by the Board, in its sole discretion, by (i) delivery of a promissory note of the Participant to the Company on terms determined by the Board, or (ii) payment of such other lawful consideration as the Board may determine; or

(5) by any combination of the above permitted forms of payment.

6. Restricted Stock; Restricted Stock Units.

(a) General. The Board may grant Awards entitling recipients to acquire shares of Common Stock ("Restricted Stock"), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. Instead of granting Awards for Restricted Stock, the Board may grant Awards entitling the recipient to receive shares of Common Stock or cash to be delivered at the time such Award vests ("Restricted Stock Units") (Restricted Stock and Restricted Stock Units are each referred to herein as a "Restricted Stock Award").

(b) Terms and Conditions for All Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price.

(c) Additional Provisions Relating to Restricted Stock.

(1) Dividends. Participants holding shares of Restricted Stock will be entitled to all ordinary cash dividends paid with respect to such shares, unless otherwise provided by the Board. Unless otherwise provided, by the Board, if any dividends or distributions are paid in shares, or consist of a dividend or distribution to holders of Common Stock other than an ordinary cash dividend, the shares, cash or other property will be subject to the same restrictions on transferability and forfeitability as the shares of Restricted Stock with respect to which they were paid. Each dividend payment will be made no later than the end of the calendar year in which the dividends are paid to shareholders of that class of stock or, if later, the 15th day of the third month following the date the dividends are paid to shareholders of that class of stock.

(2) Stock Certificates. The Company may require that any stock certificates issued in respect of shares of Restricted Stock shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant's death (the "Designated Beneficiary"). In the absence of an effective designation by a Participant, "Designated Beneficiary" shall mean the Participant's estate.

7. Other Stock-Based Awards

Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants ("Other Stock-Based Awards"), including without limitation stock appreciation rights ("SARs") and Awards entitling recipients to receive shares of Common Stock to be delivered in the future. Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto.

8. Adjustments for Changes in Common Stock and Certain Other Events

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under this Plan, (ii) the number and class of securities and exercise price per share of each outstanding Option, (iii) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award, and (iv) the terms of each other outstanding Award shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A "Reorganization Event" shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled, (b) any exchange of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Restricted Stock Awards. In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Stock Awards on such terms as the Board determines: (i) provide that Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that the Participant's unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the "Acquisition Price"), make or provide for a cash payment to a Participant equal to the excess, if any, of (A) the Acquisition Price times the number of shares of Common Stock subject to the Participant's Awards (to the extent the exercise price does not exceed the Acquisition Price) over (B) the aggregate exercise price of all such outstanding Awards and any applicable tax withholdings, in exchange for the termination of such Awards, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 8(b), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

For purposes of clause (i) above, an Option shall be considered assumed if, following consummation of the Reorganization Event, the Option confers the right to purchase, for each share of Common Stock subject to the Option immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); provided, however, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise of Options to consist solely of common stock of the acquiring or succeeding corporation (or an affiliate thereof) equivalent in value (as determined by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

(3) Consequences of a Reorganization Event on Restricted Stock Awards. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company under each outstanding Restricted Stock Award shall inure to the benefit of the Company's successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to the Common Stock subject to such Restricted Stock Award. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock Award or any other agreement between a Participant and the Company, all restrictions and conditions on all Restricted Stock Awards then outstanding shall automatically be deemed terminated or satisfied.

9. General Provisions Applicable to Awards

(a) Transferability of Awards. Except as the Board may otherwise determine or provide in an Award, Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees.

(b) Documentation. Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) Board Discretion. Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) Termination of Status. The Board shall determine the effect on an Award of the disability, death, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant's legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) Withholding. The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Common Stock under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise or release from forfeiture of an Award or, if the Company so requires, at the same time as is payment of the exercise price unless the Company determines otherwise. If provided for in an Award or approved by the Board in its sole discretion, a Participant may satisfy such tax obligations in whole or in part by delivery of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; provided, however, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares surrendered to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award.

(1) The Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant's consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, would not materially and adversely affect the Participant's rights under the Plan or (ii) the change is permitted under Section 8 hereof.

(2) The Board may, without stockholder approval, amend any outstanding Award granted under the Plan to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Award. The Board may also, without stockholder approval, cancel any outstanding award (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled award.

(g) Conditions on Delivery of Stock. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. The Board may at any time provide that any Award shall become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

10. Miscellaneous

(a) No Right To Employment or Other Status. No person shall have any claim or right to be granted an Award, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) No Rights As Stockholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

(c) Effective Date and Term of Plan. The Plan, as amended and restated, shall become effective on the date on which it is approved by the Company's stockholders. No Awards shall be granted under the Plan after June 9, 2031, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time; provided that if at any time the approval of the Company's stockholders is required as to any modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 10(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment does not materially and adversely affect the rights of Participants under the Plan.

(e) Authorization of Sub-Plans. The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable blue sky, securities or tax laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to this Plan containing (i) such limitations on the Board's discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

(f) Compliance with Code Section 409A. No Award shall provide for deferral of compensation that does not comply with Section 409A of the Code, unless the Board, at the time of grant, specifically provides that the Award is not intended to comply with Section 409A of the Code. The Company shall have no liability to a Participant, or any other party, if an Award that is intended to be exempt from, or compliant with, Section 409A is not so exempt or compliant or for any action taken by the Board.

(g) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than such state.

LEASE

17 HARTWELL AVENUE
LEXINGTON, MASSACHUSETTS

Lease Dated November 17, 2015

THIS INSTRUMENT IS AN INDENTURE OF LEASE in which the Landlord and the Tenant are the parties hereinafter named, and which relates to space in a certain building (the "Building") known as, and with an address at, 17 Hartwell Avenue, Lexington, Massachusetts 02421.

The parties to this Indenture of Lease hereby agree with each other as follows:

ARTICLE I

Reference Data

1.1 Subjects Referred To

Each reference in this Lease to any of the following subjects shall be construed to incorporate the data stated for that subject in this Article:

Landlord:	BP 17 HARTWELL LLC, a Delaware limited liability company
Landlord's Original Address:	c/o Boston Properties Limited Partnership Prudential Center 800 Boylston Street, Suite 1900 Boston, Massachusetts 02199-81 03
Landlord's Construction Representative:	Ken Chianca
Tenant:	FRACTYL LABORATORIES, INC., a Delaware corporation.
Tenant's Original Address:	203 Crescent, Waltham, MA
Tenant's Email Address for Information Regarding Billings and Statements:	Lisa Davidson accounting@fractyl.com
Tenant's Construction Representative:	ED Rybak Fox RPM Corp. crybak@foxcom.com

Tenant Plans Date:	February 1, 2016
Tenant's Approved Architect:	Dyer Brown
Tenant's Approved Project Manager:	Fox RPM Corp.
Estimated Commencement Date:	March 1, 2016
Commencement Date:	As defined in Section 2.4 of this Lease.
Rent Commencement Date:	The date forty-five (45) days from the Commencement Date, but no earlier than May 1, 2016.
Outside Completion Date:	May 15, 2016
Term or Lease Term (sometimes called the "Original Term"):	Commencing on the Commencement Date and continuing for eighty-four (84) calendar months from the Rent Commencement Date (plus the partial month, if any, immediately following the Rent Commencement Date), unless extended or sooner terminated as provided in this Lease.
Extension Options:	One (1) period of five (5) years as provided in and on the terms set forth in Section 2.4.1 hereof, and one (1) period of three (3) years as provided in and on the terms set forth in Section 10.2 hereof.
Rent Year:	Any twelve (12) month period during the Term of the Lease commencing as of the Rent Commencement Date, or as of any anniversary of the Rent Commencement Date, except that if the Rent Commencement Date does not occur on the first day of a calendar month, then (i) the first Rent Year shall further include the partial calendar month in which the first anniversary of the Rent Commencement Date occurs, and (ii) the remaining Rent Years shall be the successive twelve-(12)-month periods following the end of such first Rent Year.
The Site:	That certain parcel of land known as and numbered 17 Hartwell Avenue, Lexington, Middlesex County, Massachusetts, being more particularly described in Exhibit A attached hereto.
The Building:	The Building known as and numbered 17 Hartwell Avenue, Lexington, Massachusetts.

The Complex:	The Building together with all common areas, surface parking areas, the Site and all improvements (including landscaping) thereon and thereto.
Tenant's Premises:	The Building in its entirety (subject to the exclusions described in Section 2.1 below).
Number of Parking Spaces:	Ninety (99) spaces.
Annual Fixed Rent:	(a) During the Original Term of this Lease, Annual Fixed Rent shall be payable by Tenant as follows:

Rent Years	Rate PSF	Annual Rate
1	$ 30.00	$ 900,000
2	$ 31.00	$ 930,000
3	$ 32.00	$ 960,000
4	$ 33.00	$ 990,000
5	$ 34.00	$1,020,000
6	$ 35.00	$1,050,000
7	$ 36.00	$1,080,000

Notwithstanding the foregoing, provided there exists no Event of Default, Annual Fixed Rent shall abate for the period commencing on the Commencement Date and ending on the day prior to the Rent Commencement Date in the amount of $110,958 (the "**Abated Fixed Rent**").

(b) During the extension option period (if exercised), as determined pursuant to Section 2.4.1.

Tenant Electricity:	Initially as provided in Section 2.5 subject to adjustment as provided in Section 2.8 hereof.
Additional Rent:	All charges and other sums payable by Tenant as set forth in this Lease, in addition to Annual Fixed Rent.
Rentable Floor Area of the Premises:	30,000 square feet.
Total Rentable Floor Area of the Building:	30,000 square feet.
Permitted Use:	General office use and laboratory use for the research, development and light manufacturing of medical devices only, as the foregoing may from time to time be permitted under the Zoning By-Law of the Town of Lexington.

Broker(s):	Cushman & Wakefield and T3 Realty Advisors LLC
Security Deposit:	$450,000.00, subject to Section 9.18 below.
Guarantor:	N/A.

1.2 Table of Articles and Sections

1.3 Exhibits

There are incorporated as part of this Lease:

Exhibit A	—	Description of Site
Exhibit B-1	—	Work Agreement
Exhibit B-2	—	Landlord's Work
Exhibit B-3	—	Tenant Plan and Working Drawing Requirements
Exhibit C	—	Landlord's Services
Exhibit D	—	Floor Plan
Exhibit E	—	Form of Declaration Affixing the Commencement Date of Lease
Exhibit F	—	Form of Lien Waivers
Exhibit G	—	Broker Determination of Prevailing Market Rent
Exhibit H	—	Form of Letter of Credit
Exhibit I	—	Form of Certificate of Insurance
Exhibit J	—	Tenant's Hazardous Materials
Exhibit I	—	Landlord Work Construction Schedule

ARTICLE II

Building, Premises, Term and Rent

2.1 The Premises

Landlord hereby demises and leases to Tenant, and Tenant hereby hires and accepts from Landlord, Tenant's Premises excluding the roof and exterior faces of exterior walls. Tenant's Premises with such exclusions is hereinafter referred to as the "Premises." Subject to temporary interruption resulting from fire, casualty, maintenance activity, the actions of governmental authorities and other conditions not reasonably within Landlord's control, Tenant shall have access to the parking areas and the Premises 24 hours per day, 365 days per year.

2.2 Rights to Use Common Facilities

2.2.1 Tenant's Parking

In addition, Tenant shall have the right to use in the parking area the Number of Parking Spaces (referred to in Section 1.1) for the parking of automobiles. In the event that the Rentable Floor Area of the Premises decreases or increases at any time during the Lease Term, the Number of Parking Spaces provided to Tenant hereunder shall be adjusted proportionately. Tenant covenants and agrees that it and all persons claiming by, through and under it, shall at all times abide by all reasonable rules and regulations promulgated by Landlord with respect to the use of the parking areas on the Site, subject to the provisions in Section 5.4. The parking privileges granted herein are non-transferable except to a permitted assignee or subtenant as provided in Section 5.6. Further, Landlord assumes no responsibility whatsoever for loss or damage due to fire, theft or otherwise to any automobile(s) parked on the Site or to any personal property therein, unless caused by the willful acts or negligence of the Landlord or its agents, contractors or representatives, and Tenant covenants and agrees, upon request from Landlord from time to time, to notify its officers, employees, agents and invitees of such limitation of liability. Tenant acknowledges and agrees that a license only is hereby granted, and no bailment is intended or shall be created.

2.2.2 Signage

Provided (i) Tenant leases the Total Rentable Floor Area of the Building, (ii) no Event of Default exists, and (iii) Tenant has not assigned this Lease or sublet more than fifty percent (50%) of the Premises (except for an assignment or subletting permitted without Landlord's consent under Section 5.6.1 hereof), Tenant shall be permitted, at Tenant's expense, to erect one (1) exterior sign on the façade of the Building containing Tenant's name and/or logo in a location first approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed. In addition, the design, size, proportions and color of such signage shall be subject to the prior approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed, and shall be further subject to the requirements of the Zoning By-Law of the Town of Lexington and any other applicable Legal Requirements (as defined in Exhibit B-1) and to Tenant obtaining all necessary permits and approvals therefor. Tenant acknowledges and agrees that Tenant's right to signage on the Building pursuant to this Section 2.2.2 is not on an exclusive basis and that Landlord may grant other tenants in the Complex the right to signage on the Site; provided, however, Landlord agrees not to provide such signage for others on the Building (other than signage identifying Landlord and/or its broker) for so long as Tenant is the sole tenant of the Building. In the event Tenant erects a sign pursuant to this Section 2.2.2 and Tenant subsequently assigns this Lease, or subleases more than fifty percent (50%) of its Premises (except for an assignment or subletting permitted pursuant to Section 5.6.1), Tenant agrees that it shall remove such signage at Tenant's expense if requested by the Landlord. In addition, Tenant shall be required, at its sole cost and expense, to remove all of the signage described in this Section 2.2.2 and restore any areas affected by the installation and subsequent removal of Tenant's signage upon the expiration or earlier termination of the Term.

2.3 Landlord's Reservations

Landlord reserves the right from time to time, without unreasonable interference with Tenant's use: (a) to install, use, maintain, repair, replace and relocate for service to the Premises and other parts of the Building, or either, pipes, ducts, conduits, wires and appurtenant fixtures, wherever located in the Premises or Building, and (b) to alter or relocate any other common facility, provided that substitutions are substantially equivalent or better; provided, however, Landlord agrees not to exercise its rights under this clause (b) for so long as Tenant is the only tenant of the Building. Installations, replacements and relocations referred to in clause (a) above shall be located so far as practicable above ceiling surfaces, below floor surfaces or within perimeter walls of the Premises.

2.4 Habendum

Tenant shall have and hold the Premises for a period commencing on the earlier of (a) the Substantial Completion Date (as defined in Exhibit B-1 hereof), or (b) that date on which Tenant commences occupancy of any portion of the Premises for the Permitted Uses (the earlier of such dates being referred to herein as the "Commencement Date"), and continuing for the Term unless sooner terminated as provided in Article VI or Article VII or unless extended as provided in Section 2.4.1.

As soon as may be convenient after the date has been determined on which the Term commences as aforesaid, Landlord and Tenant agree to join with each other in the execution of a written Declaration Affixing the Commencement Date of Lease, in the form of Exhibit E, in which the date on which the Term commences as aforesaid and the Term of this Lease shall be stated. If Tenant fails to execute such Declaration Affixing the Commencement Date of Lease, the Commencement Date and Lease Term shall be as reasonably determined by Landlord in accordance with the terms of this Lease.

2.4.1 Extension Option

(A) On the conditions (which conditions Landlord may waive by written notice to Tenant) that at the time of exercise of the option to extend and at the commencement date of the extension option period (i) there exists no Event of Default (defined in Section 7.1), (ii) this Lease is still in full force and effect, and (iii) Tenant has neither assigned this Lease nor sublet more than fifty percent (50%) of the Premises in the aggregate (except for an assignment or subletting permitted without Landlord's consent under Section 5.6.1 hereof), Tenant shall have the right to extend the Term hereof upon all the same terms, conditions, covenants and agreements herein contained (except for the Annual Fixed Rent which shall be adjusted during the option periods as hereinbelow set forth) for one (1) period of five (5) years as hereinafter set forth. Such option period is sometimes herein referred to as an "Extended Term." Notwithstanding any implication to the contrary Landlord has no obligation to make any additional payment to Tenant in respect of any construction allowance or the like or to perform any work to the Premises as a result of the exercise by Tenant of any such option. To the extent that Tenant has leased the Expansion Premises pursuant to Article X below, then any exercise of Tenant's rights under this Section 2.4.1 shall include the Expansion Premises and all references herein to "Premises" shall include the Expansion Premises.

(B) (i) If Tenant desires to exercise the option to extend the Term, then Tenant shall give notice (the "Exercise Notice") to Landlord, not earlier than twenty (20) months nor later than fifteen (15) months prior to the expiration of the Term of this Lease exercising such option to extend. Promptly after Landlord's receipt of the Exercise Notice Landlord shall provide Landlord's quotation of a proposed Annual Fixed Rent for the Extended Term ("Landlord's Rent Quotation"). If at the expiration of thirty (30) days after the date when Landlord provides such quotation to Tenant (the "Negotiation Period"), Landlord and Tenant have not reached agreement on a determination of an Annual Fixed Rent for the Extended Term and executed a written instrument extending the Term of this Lease pursuant to such agreement, then Tenant shall have the right, for thirty (30) days following the expiration of the Negotiation Period, to make a request to Landlord for a broker determination (the "Broker Determination") of the Prevailing Market Rent (as defined in Exhibit G) for the Extended Term, which Broker Determination shall be made in the manner set forth in Exhibit G.

(B) (ii) If Tenant timely shall have requested the Broker Determination, then the Annual Fixed Rent for the Extended Term shall be the Prevailing Market Rent as determined by the Broker Determination. If Tenant does not timely request the Broker Determination, then Annual Fixed Rent during the Extended Term shall be equal to Landlord's Rent Quotation.

(C) Upon the giving of the Exercise Notice by Tenant to Landlord exercising Tenant's then option to extend the Lease Term in accordance with the provisions of either subsection (B) above, this Lease and the Lease Term hereof shall be extended, for the Extended Term, without the necessity for the execution of any additional documents, except that Landlord and Tenant agree to enter into an instrument in writing setting forth the Annual Fixed Rent for the Extended Term but the failure to so enter into such a written instrument shall not negate the exercise of the option to extend. Notwithstanding anything herein contained to the contrary, and in no event shall the Lease Term hereof be extended for more than five (5) years after the expiration of the Original Term hereof.

2.5 Fixed Rent Payments

Tenant agrees to pay to Landlord, (1)(a) on the Rent Commencement Date (defined in Section 1.1 hereof) and thereafter monthly, in advance, on the first day of each and every calendar month during the Original Term, a sum equal to one twelfth (1/12th) of the Annual Fixed Rent (sometimes hereinafter referred to as "fixed rent") and (1)(b) on the first day of each and every calendar month during the extension option period (if exercised), a sum equal to one twelfth (1/12th) of the Annual Fixed Rent as determined in Section 2.4.1 for the extension option period. Until notice of some other designation is given, fixed rent and all other charges for which provision is herein made shall be paid by remittance to or for the order of Boston Properties Limited Partnership either (i) by ACH transfer to Bank of America in Dallas, Texas, Bank Routing Number or (ii) by mail to P.O. Box 3557, Boston, Massachusetts 02241-3557, and in the case of (i) referencing Account Number , Account Name of Boston Properties, LP, Tenant's name and the Property address. All remittances received by Boston Properties Limited Partnership, as Agents as aforesaid, or by any subsequently designated recipient, shall be treated as payment to Landlord.

Annual Fixed Rent for any partial month shall be paid by Tenant to Landlord at such rate on a pro rata basis, and, if the Rent Commencement Date is a day other than the first day of a calendar month, the first payment of Annual Fixed Rent which Tenant shall make to Landlord shall be a payment equal to a proportionate part of such monthly Annual Fixed Rent for the partial month from the Rent Commencement Date to the first day of the succeeding calendar month.

Additional Rent payable by Tenant on a monthly basis, as hereinafter provided, likewise shall be prorated, and the first payment on account thereof shall be determined in similar fashion but shall commence on the Commencement Date; and other provisions of this Lease calling for monthly payments shall be read as incorporating this undertaking by Tenant.

The Annual Fixed Rent and all other charges for which provision is herein made shall be paid by Tenant to Landlord, without offset, deduction or abatement except as otherwise specifically set forth in this Lease.

Notwithstanding anything contained herein or in Section 1.1 to the contrary, it is understood and agreed that in the event a monetary Event of Default occurs during the first twelve (12) months of the Term of this Lease, the Abated Fixed Rent shall immediately become due and payable and Tenant shall make payment of the same within thirty (30) days after demand therefor by Landlord.

2.6 Operating Expenses

"Landlord's Operating Expenses" means the costs incurred by Landlord for the maintenance, repair, management and operation of the Building and the Site which shall exclude costs of special services rendered to Tenant for which a separate charge is made, but shall include, without limitation, the following: premiums for insurance carried with respect to the Building and the Site (including, without limitation, liability insurance, insurance against loss in case of fire or casualty and insurance of monthly installments of fixed rent and any Additional Rent which may be due under this Lease for not more than 12 months in the case of both fixed rent and Additional Rent and if there be any first mortgage of the Complex, including such insurance as may be required by the holder of such first mortgage); compensation and all fringe benefits, worker's compensation insurance premiums and payroll taxes paid to, for or with respect to all persons engaged in the operating, maintaining or cleaning of the Building or Site, water, sewer, electric, gas, oil and telephone charges (excluding utility charges separately chargeable to Tenant for additional or special services); cost of building and cleaning supplies and equipment; cost of maintenance, cleaning and repairs (other than repairs not properly chargeable against income or reimbursed from contractors under guarantees); cost of snow removal and care of landscaping; payments under service contracts with independent contractors; management fees equal to three percent (3%) of the gross rents from the Building; costs of maintaining a regional property management office in connection with the operation, management and maintenance of the Building; all costs of applying and reporting for the Building or any part thereof to seek or maintain certification under the U.S. EPA's Energy Star® rating system, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system or a similar system or standard; and all other reasonable and necessary expenses paid in connection with the operation, cleaning and maintenance of the Building and the Site and properly chargeable against income, provided, however, there shall be included (a) depreciation for capital expenditures made by Landlord during the Lease Term (i) to reduce Landlord's Operating Expenses if Landlord shall have reasonably determined that the annual reduction in Landlord's Operating Expenses shall exceed depreciation therefor or (ii) to comply with applicable Legal Requirements now or hereafter in force (the capital expenditures described in subsections (i) and (ii) being hereinafter referred to as "Permitted Capital Expenditures"); plus (b) in the case of both (i) and (ii) an interest factor equal to the lesser of the so-called "prime rate" announced by the Bank of America, N.A. (or its successors) plus four percent (4%) or the maximum rate permitted by law; depreciation in the case of both (i) and (ii) shall be determined on a straight-line basis by dividing the original cost of such capital expenditure by the number of years of useful life of the capital item acquired and the useful life shall be determined in accordance with generally accepted accounting principles and practices in effect at the time of acquisition of the capital item; provided, however, if Landlord reasonably concludes on the basis of engineering estimates that a particular capital expenditure will effect savings in other Landlord's Operating Expenses, including, without limitation, energy related costs, and that such projected savings will, on an annual basis ("Projected Annual Savings"), exceed the annual depreciation therefor, then and in such event the amount of depreciation for such capital expenditure shall be increased to an amount equal to the Projected Annual Savings; and in such circumstance, the increased depreciation (in the amount of the Projected Annual Savings) shall be made for such period of time as it would take to fully amortize the cost of the item in question, together with interest thereon at the interest rate as aforesaid in equal monthly payments, each in the amount of 1/12th of the Projected Annual Savings, with such payment to be applied first to interest and the balance to principal.

Tenant shall pay to Landlord, as Additional Rent, an amount equal to Landlord's Operating Expenses. Such payments shall be made at the times and in the manner hereinafter provided in this Section 2.6. Not later than one hundred and twenty (120) days after the end of the first calendar year or fraction thereof ending December 31 and of each succeeding calendar year (each an "Operating Year") during the Term or fraction thereof at the end of the Term, Landlord shall render Tenant a statement in reasonable detail and according to usual accounting practices certified by a representative of Landlord, showing for the preceding calendar year or fraction thereof within the Term, as the case may be, Landlord's Operating Expenses. Said statement to be rendered to Tenant shall also show for the preceding year or fraction thereof as the case may be the amounts of Landlord's Operating Expenses already paid by Tenant, as Additional Rent, and the amount of the Landlord's Operating Expenses remaining due from, or overpaid by, Tenant for the year or other period covered by the statement. Within thirty (30) days after the date of delivery of such statement, Tenant shall pay to Landlord the balance of the amounts, if any, required to be paid pursuant to the above provisions of this Section 2.6 with respect to the preceding year or fraction thereof, or Landlord shall credit any amounts due from it to Tenant pursuant to the above provisions of this Section 2.6 against (i) monthly installments of fixed rent next thereafter coming due or (ii) any sums then due from Tenant to Landlord under this Lease (or refund such portion of the overpayment as aforesaid if the Term has ended and Tenant has no further obligation to Landlord).

In addition, commencing on the Commencement Date, Tenant shall make payments monthly on account of Landlord's Operating Expenses anticipated for the then current year at the time and in the fashion herein provided for the payment of fixed rent. The amount to be paid to Landlord shall be an amount reasonably estimated annually by Landlord to be sufficient to cover, in the aggregate, a sum equal to the Landlord's Operating Expenses for each calendar year during the Term.

The following costs and expenses shall be excluded from Operating Expenses:

(1) Real estate taxes and Landlord's Tax Expenses;

(2) principal or interest on indebtedness, debt amortization or ground rent paid by Landlord in connection with any mortgages, deeds of trust or other financing encumbrances, or ground leases of the Building or the Site;

(3) capital improvements to the Complex other than those provided in subsection 2.6 above;

(4) legal, auditing, consulting and professional fees and other costs paid or incurred in connection with financings, refinancings or sales of any interest in Landlord or of Landlord's interest in the Building or the Site or in connection with any ground lease (including, without limitation, recording costs, mortgage recording taxes, title insurance premiums and other similar costs, but excluding those legal, auditing, consulting and professional fees and other costs incurred in connection with the normal and routine maintenance and operation of the Building and/or the Site);

(5) legal fees, space planner's fees, architect's fees, leasing and brokerage commissions, advertising and promotional expenditures and any other marketing expense incurred in connection with the leasing of space in the Building (including new leases, lease amendments, lease terminations and lease renewals);

(6) the cost of repairs or replacements incurred by reason of fire or other casualty, or condemnation (other than costs not in excess of the deductible on any insurance maintained by Landlord which provides a recovery for such repair or replacement), to the extent Landlord actually receives proceeds of property and casualty insurance policies or condemnation awards or would have received such proceeds had Landlord maintained the insurance required to be maintained by Landlord under this Lease;

(7) damage and repairs necessitated by the negligence or willful misconduct of Landlord Parties;

(8) interest, fines or penalties for late payment or violations of Legal Requirements by Landlord, if any, except to the extent incurring such expense is either (a) a reasonable business expense under the circumstances or (b) caused by a corresponding late payment or violation of a Legal Requirement by Tenant, in which event Tenant shall be responsible for the full amount of such expense;

(9) costs of replacements, alterations or improvements necessary to make the Building or the Site comply with Legal Requirements in effect and applicable to the Building and/or the Site prior to the date of this Lease, except to the extent the need for such replacements, alterations or improvements is caused by Tenant Parties (in which case Tenant shall nonetheless be responsible for such costs in accordance with Section 5.10 of this Lease), provided, however, that the provisions of this clause (9) shall not preclude the inclusion of costs of compliance with Legal Requirements enacted prior to the date of this Lease if such compliance is required for the first time by reason of any amendment, modification or reinterpretation of a Legal Requirement which is imposed after the date of this Lease;

(10) costs for the original construction and development of the Building and nonrecurring costs for the repair or replacement of any structural portion of the Building made necessary as a result of defects in the original design, workmanship or materials;

(11) costs and expenses incurred for the administration of the entity which constitutes Landlord, as the same are distinguished from the costs of operation, management, maintenance and repair of the Complex, including, without limitation, entity accounting and legal matters;

(12) salaries and all other compensation (including fringe benefits) of partners, officers and executives above the grade of "building manager" for Boston area leases;

(13) the wages and benefits of any employee who does not devote substantially all of his or her employed time to the Complex unless such wages and benefits are prorated on a reasonable basis to reflect time spent on the operation and management of the Complex vis-à-vis time spent on matters unrelated to the operation and management of the Complex;

(14) depreciation for the Building; and

(15) management fees to the extent the same exceed three percent (3%) of gross rents from the Building.

2.7 Real Estate Taxes

(A) On or before the thirtieth (30th) day following receipt by Tenant of the certified statement referred to below in this Section 2.7, Tenant shall pay to Landlord, as Additional Rent, the amount of Landlord's Tax Expenses. Not later than ninety (90) days after Landlord's Tax Expenses are determined for any Tax Year or fraction thereof within the Term and for each succeeding Tax Year or fraction thereof during the Term, Landlord shall render Tenant a statement in reasonable detail certified by a representative of Landlord showing for the preceding year or fraction thereof, as the case may be, real estate taxes and abatements and refunds of any taxes and assessments. Expenditures for reasonable out-of-pocket legal fees and for other reasonable out-of-pocket expenses incurred in seeking the tax refund or abatement may be charged against the tax refund or abatement before the adjustments are made for the Tax Year. Said statement to be rendered to Tenant shall also show for the preceding Tax Year or fraction thereof as the case may be the amounts of real estate taxes already paid by Tenant as Additional Rent, and the amount of real estate taxes remaining due from, or overpaid by, Tenant for the year or other period covered by the statement. Within thirty (30) days after the date of delivery of the foregoing statement, Tenant shall pay to Landlord the balance of the amounts, if any, required to be paid pursuant to the above provisions of this Section 2.7 with respect to the preceding Tax Year or fraction thereof, or Landlord shall credit any amounts due from it to Tenant pursuant to the provisions of this Section 2.7 against (i) monthly installments of fixed rent next thereafter coming due or (ii) any sums then due from Tenant to Landlord under this Lease (or refund such portion of the over-payment in the 30-day period as aforesaid if the Term has ended and Tenant has no further obligation to Landlord).

(B) Except as Landlord otherwise elects as provided below, only Landlord shall have the right to institute tax reduction or other proceedings to reduce real estate taxes or the valuation of the Building, the Site and/or Complex; however, upon written request of Tenant delivered to Landlord not less than thirty (30) days prior to the last date on which said proceedings may be initiated, Landlord shall either (i) initiate such proceedings at Tenant's expense, or (ii) grant Tenant the right to initiate such proceedings at its own expense. To the extent Landlord grants Tenant the right to initiate such proceedings, Tenant shall agrees that each such contest shall be promptly and diligently prosecuted in good faith to a final conclusion except only as provided herein. Landlord agrees to cooperate with Tenant in any such proceeding provided that the same shall be at the sole cost and expense of Tenant. Tenant will pay and save Landlord harmless against any and all losses, judgments, decrees and costs incurred by Landlord (including reasonable attorneys' fees) relating to the Premises and the Term hereof and being the direct or proximate result of Tenant's initiation of such contest and will, promptly after the final settlement, compromise or determination of such contest, fully pay and discharge Tenant's obligations under this Section 2.7, together with all penalties, fines, interests, costs and expenses. Further, any such contest by Tenant shall not be discontinued unless and until Tenant has given to Landlord written notice of Tenant's intent to so discontinue and if Landlord shall not by notice to Tenant (the "Assumption Notice") within thirty (30) days after receipt of Tenant's notice elect to assume, at Landlord's sole cost and expense, the continued prosecution and conduct of such contest. In the event Landlord shall give such Assumption Notice, Tenant shall cooperate with Landlord in all respects as may be necessary for Landlord's continuation of such contest, but Tenant shall have no other obligation for the prosecution and conduct of such contest. Notwithstanding anything to the contrary set forth in this subsection (B), Tenant shall have no right to initiate or require Landlord to initiate any contest respecting real estate taxes if there shall be less than twelve (12) full calendar months remaining in the Lease Term as it may have been extended.

(B) In addition, commencing on the Commencement Date, payments by Tenant on account of real estate taxes reasonably anticipated for the then current year shall be made monthly at the time and in the fashion herein provided for the payment of fixed rent. The amount so to be paid to Landlord shall be an amount reasonably estimated by Landlord to be sufficient to provide Landlord, in the aggregate, a sum equal to such real estate taxes, at least ten (10) days before the day on which such payments by Landlord would become delinquent. Landlord shall notify Tenant of the amount of such payment not less than thirty (30) days prior to the date the first such payment from Tenant is due and payable provided Landlord has been previously notified of such amount by the applicable governmental authority.

(C) To the extent that real estate taxes shall be payable to the taxing authority in installments with respect to periods less than a Tax Year, the foregoing statement shall be rendered and payments made on account of such installments. Notwithstanding the foregoing, to the extent Tenant is required to pay any assessments, each assessment shall be deemed to be payable in as many installments as is lawful, plus any interest due thereon, and only the installments due during any Tax Year shall be included in the real estate taxes for that Tax Year; any portion of any assessment deemed payable after the term of this Lease shall not be Tenant's obligation. All refunds, rebates and discounts received by Landlord in connection with such Taxes shall be deducted prior to the calculation of Tenant's payment of Landlord's Tax Expenses for those periods when such Landlord's Tax Expenses are paid or payable by Tenant.

Terms used herein are defined as follows:

(i) "Tax Year" means the twelve-month period beginning July 1 each year or if the appropriate governmental tax fiscal period shall begin on any date other than July 1, such other date.

(ii) "Landlord's Tax Expenses" with respect to any Tax Year means the aggregate real estate taxes on the Building and Site with respect to that Tax Year, reduced by any abatement receipts with respect to that Tax Year.

(iii) "Real estate taxes" means all taxes and special assessments of every kind and nature and user fees and other like fees assessed by any governmental authority (including, but not limited to, any tax, assessment or charge resulting from the creation of a special improvement district) on the Building or Site which the Landlord shall become obligated to pay because of or in connection with the ownership, leasing and operation of the Site, the Building and the Complex (including, without limitation, if applicable the excise prescribed by Mass Gen Laws (Ter Ed) Chapter 121A, Section 10 and amounts in excess thereof paid to the Town of Lexington pursuant to agreement between Landlord and the Town) and reasonable expenses of and fees for any formal or informal proceedings for negotiation or abatement of taxes (collectively, "Abatement Expenses"). The amount of special taxes or special assessments to be included shall be limited to the amount of the installment (plus any interest, other than penalty interest, payable thereon) of such special tax or special assessment required to be paid during the year in respect of which such taxes are being determined. There shall be excluded from such taxes all income, estate, succession, inheritance, franchise, sales, capital levy, profit and transfer taxes; provided, however, that if at any time during the Term the present system of ad valorem taxation of real property shall be changed so that in lieu of the whole or any part of the ad valorem tax on real property there shall be assessed on Landlord a capital levy or other tax on the gross rents received with respect to the Site or Building or Complex, federal, state, county, municipal, or other local income, estate, succession, inheritance, franchise, sales, capital levy, profit, excise or similar tax, assessment, levy or charge (distinct from any now in effect in the jurisdiction in which the Complex is located) measured by or based, in whole or in part, upon any such gross rents, then any and all of such taxes, assessments, levies or charges, to the extent so measured or based, shall be deemed to be included within the term "real estate taxes" but only to the extent that the same would be payable if the Site and Building were the only property of Landlord.

2.8 Tenant Electricity

Effective as of the Commencement Date and continuing throughout the Term, for so long as Tenant shall be directly (which shall include any permitted sublease or assignment under this Lease) leasing the Building in its entirety, Tenant covenants and agrees to make application to the appropriate utility company or utility provider for electrical service to the Building in the quantum required for Tenant's use of the Building and to make any deposit (including but not limited to, such letters of credit) as such utility company or provider shall require. Tenant covenants and agrees to pay, punctually as and when due, all electricity charges and rates for and relating to the Building and from time-to-time if requested by Landlord to provide Landlord with evidence of payment to, and good standing with, such utility company or provider as Landlord may reasonably require. Tenant further covenants and agrees to defend, save harmless and, indemnify Landlord against all liability, cost and damage arising out of or in any way connected to the payment, nonpayment or late payment of any and all charges or deposits to such utility company or provider. The provisions of this Section 2.8 shall survive the expiration or termination of this Lease.

2.9 Tenant's Right of Examination.

Subject to the provisions of this Section and provided that no Event of Default of Tenant exists, Tenant shall have the right to examine the correctness of the Landlord's Operating Expense statement or any item contained therein:

1. Any request for examination in respect of any Operating Year may be made by notice from Tenant to Landlord no more than sixty (60) days after the date (the "Operating Expense Statement Date") Landlord provides Tenant a statement of the actual amount of the Operating Expenses in respect of such Operating Year and only if Tenant shall have fully paid such amount. Such notice shall set forth in reasonable detail the matters questioned. Any examination must be completed and the results communicated to Landlord no more than one hundred eighty (180) days after the Operating Expense Statement Date.

2. Tenant hereby acknowledges and agrees that Tenant's sole right to contest the Operating Expense statement shall be as expressly set forth in this Section. Tenant hereby waives any and all other rights pursuant to Legal Requirements to inspect Landlord's books and records and/or to contest the Operating Expense statement. If Tenant shall fail to timely exercise Tenant's right to inspect Landlord's books and records as provided in this Section, or if Tenant shall fail to timely communicate to Landlord the results of Tenant's examination as provided in this Section, with respect to any Operating Year Landlord's statement of Operating Expenses shall be conclusive and binding on Tenant.

3. So much of Landlord's books and records pertaining to the Operating Expenses for the specific matters questioned by Tenant for the Operating Year included in Landlord's statement shall be made available to Tenant within a reasonable time after Landlord timely receives the notice from Tenant to make such examination pursuant to this Section, either electronically or during normal business hours at the offices where Landlord keeps such books and records or at another location, as determined by Landlord.

4. Tenant shall have the right to make such examination no more than once in respect of any Operating Year in which Landlord has given Tenant a statement of the Operating Expenses.

5. Such examination may be made only by a qualified employee of Tenant or a qualified independent certified public accounting firm approved by Landlord. No examination shall be conducted by an examiner who is to be compensated, in whole or in part, on a contingent fee basis.

6. As a condition to performing any such examination, Tenant and its examiners shall be required to execute and deliver to Landlord an agreement, in form acceptable to Landlord, agreeing to keep confidential any information which it discovers about Landlord or the Building in connection with such examination.

7. No subtenant shall have any right to conduct any such examination and no assignee may conduct any such examination with respect to any period during which the assignee was not in possession of the Premises.

8. All costs and expenses of any such examination shall be paid by Tenant, except if such examination shows that the amount of the Operating Expenses payable by Tenant was overstated by more than seven and one half percent (7.5%), Landlord shall reimburse Tenant for the reasonable out-of-pocket costs and expenses incurred by Tenant in such examination, up to a maximum of the lesser of (i) Five Thousand Dollars ($5,000) and (ii) the amount of the overstatement of the Operating Expenses payable by Tenant.

ARTICLE III

Condition of Premises; Alterations

3.1 Preparation of Building and Premises

The condition of the Building and the Premises upon Landlord's delivery along with any work to be performed by either Landlord or Tenant shall be as set forth in the Work Agreement attached hereto as Exhibit B-1 and made a part hereof.

ARTICLE IV

Landlord's Covenants; Interruptions and Delays

4.1 Landlord Covenants

4.1.1 Services Furnished by Landlord

To furnish services, utilities, facilities and supplies set forth in Exhibit C equal to those customarily provided by landlords in high quality buildings in the Boston West Suburban Market subject to reimbursement in accordance with Section 2.6 (except as may otherwise be expressly provided in said Exhibit C). Any utilities supplied by Landlord shall be charged at rates no higher than those which would be charged by the local utility company (other than inclusion of management fees generally applicable to Operating Expenses).

4.1.2 Additional Services Available to Tenant

To furnish, at Tenant's expense, reasonable additional Building operation services which are usual and customary in similar office buildings in the Boston West Suburban Market upon reasonable advance request of Tenant at reasonable and equitable rates from time to time established by Landlord. Tenant agrees to pay to Landlord, as Additional Rent, the reasonable cost of any such additional Building services requested by Tenant and for the reasonable cost of any additions, alterations, improvements or other work performed by Landlord in the Premises (other than any work to be performed by Landlord pursuant to Exhibit B-1) at the written request of Tenant within thirty (30) days after being billed therefor.

4.1.3 Roof, Exterior Wall, Floor Slab and Common Facility Repairs

Except for (a) normal and reasonable wear and use and (b) damage caused by fire and casualty and by eminent domain, and except as otherwise provided in Article VI and subject to reimbursement in accordance with Section 2.6, (i) to make such repairs (structural or otherwise) to the roof, exterior walls, floor slabs and Common Facilities as may be necessary to keep them in serviceable condition and (ii) to maintain the Building (exclusive of Tenant's responsibilities under this Lease) in a first class manner comparable to the maintenance of similar properties in the Boston West Suburban Market.

4.2 Interruptions and Delays in Services and Repairs, Etc.

Landlord shall not be liable to Tenant for any compensation or reduction of rent by reason of inconvenience or annoyance or for loss of business arising from the necessity of Landlord or its agents entering the Premises for any of the purposes in this Lease authorized, or for repairing the Premises or any portion of the Building however the necessity may occur. In case Landlord is prevented or delayed from making any repairs, alterations or improvements, or furnishing any services or performing any other covenant or duty to be performed on Landlord's part, by reason of any cause reasonably beyond Landlord's control, including without limitation by reason of Force Majeure (as defined in Section 6.1 hereof), Landlord shall not be liable to Tenant therefor, nor, except as expressly otherwise provided in Article VI, shall Tenant be entitled to any abatement or reduction of rent by reason thereof, or right to terminate this Lease, nor shall the same give rise to a claim in Tenant's favor that such failure constitutes actual or constructive, total or partial, eviction from the Premises.

Landlord reserves the right to stop any service or utility system, when necessary by reason of accident or emergency, or until necessary repairs have been completed; provided, however, that in each instance of stoppage, Landlord shall exercise reasonable diligence to eliminate the cause thereof as promptly as possible. Except in case of emergency repairs, Landlord will give Tenant reasonable advance notice of any contemplated stoppage (but in no event less than three (3) business days advance notice) and will use reasonable efforts to avoid unnecessary inconvenience to Tenant by reason thereof.

Notwithstanding the foregoing, and solely for the purposes of this Section 4.2, an "Abatement Event" shall be defined as an event or circumstance resulting from or caused by any failure of Landlord to provide electrical, heating, ventilating, air conditioning, or access to the Premises that prevents Tenant from using the Premises or any portion thereof. Tenant shall give Landlord notice ("Abatement Notice") of any such Abatement Event, and if such Abatement Event continues beyond the "Eligibility Period" (as that term is defined below), then the Annual Fixed Rent and Tenant's payments on account of Landlord's Tax Expenses and Operating Expenses shall be abated entirely or reduced, as the case may be, only to the extent of the "Insurance Amount" (hereinafter defined) for a period commencing on the date the Eligibility Period expires and continuing through the date that Tenant continues to be so prevented from using, and does not use, the Premises or a portion thereof, in the proportion that the rentable area of the portion of the Premises that Tenant is prevented from using, and does not use, bears to the total Rentable Floor Area of the Premises; provided, however, in the event that Tenant is prevented from using, and does not use, a portion of the Premises for a period of time in excess of the Eligibility Period and the remaining portion of the Premises is not reasonably sufficient to allow Tenant to effectively conduct its business therein, and if Tenant does not conduct its business from such remaining portion, then for such time after expiration of the Eligibility Period during which Tenant is so prevented from effectively conducting its business therein, Annual Fixed Rent and Tenant's payments on account of Landlord's Tax Expenses Allocable to the Premises and Operating Expenses Allocable to the Premises shall be abated entirely for such time as Tenant continues to be so prevented from using, and does not use, the Premises to the extent of the Insurance Amount. The term "Eligibility Period" shall mean in connection with a failure by Landlord to provide required services or access to the Premises due to an event or circumstance within Landlord's reasonable control and which are as a result of causes which are covered by Landlord's loss of rentals insurance, a period of seven (7) consecutive days after Landlord's receipt of any Abatement Notice(s). The "Insurance Amount" shall be an amount equal to the payment actually received by Landlord (but only allocable to and on account of the Premises) for such shut down of service to the Premises from Landlord's insurance carrier providing such loss of rents insurance less the amount of any deductible contained in such loss of rents insurance coverage. Notwithstanding anything herein contained to the contrary, in no event shall any of the events referred to in this Section 4.2 give rise to a claim in Tenant's favor that such failure constitutes actual or constructive, total or partial, eviction from the Premises.

ARTICLE V

Tenant's Covenants

Tenant covenants and agrees to the following during the Term and such further time as Tenant occupies any part of the Premises:

5.1 Payments

To pay when due all fixed rent and Additional Rent and all charges for utility services rendered to the Premises (except as otherwise provided in Exhibit C) and, as further Additional Rent, all charges for additional services rendered pursuant to Section 4.1.2. In the event Tenant pays any utilities for the Premises directly to the utility company or provider, Tenant shall grant Landlord reasonable access to Tenant's account with such utility company or provider so that Landlord can review the utility bills relating to the Premises.

5.2 Repair and Yield Up

Except as otherwise provided in Article VI and Section 4.1.3 to keep the Premises in good order, repair and condition, reasonable wear and tear only excepted, and all glass in windows (except glass in exterior walls unless the damage thereto is attributable to Tenant's negligence or misuse) and doors of the Premises whole and in good condition with glass of substantially similar type and quality as that injured or broken, damage by fire or taking under the power of eminent domain, reasonable wear and tear, and Landlord's repair and maintenance obligations hereunder, only excepted. Tenant shall be responsible for arranging for its own janitorial/cleaning services to, and trash removal from, the Premises by a contractor or contractors reasonably approved by Landlord so as to maintain the Premises in clean and sanitary condition. Tenant shall arrange for regular removal of trash from the Premises to the dumpster provided by Landlord adjacent to the loading dock serving the Premises. In no event may Tenant dispose of any Hazardous Materials in such dumpster (it being acknowledged that Tenant shall separately arrange for the transportation and disposal of Hazardous Materials at its own expense in compliance with applicable Hazardous Materials Laws). At the expiration or termination of this Lease peaceably to yield up the Premises all construction, work, improvements, and all alterations and additions thereto in good order, repair and condition, reasonable wear and tear only excepted, first removing all goods and effects of Tenant and, to the extent specified by Landlord by notice to Tenant given at least thirty (30) days before such expiration or termination (unless otherwise specified by Landlord as set forth in Section 5.12), the wiring for Tenant's computer, telephone and other communication systems and equipment whether located in the Premises or in any other portion of the Building, including all risers and all alterations and additions made by Tenant and all partitions (but in no event shall Tenant be required to remove any of Tenant' Work, except as specifically provided below or in Section 5.12), and repairing any damage caused by such removal and restoring the Premises and leaving them clean and neat. Notwithstanding anything to the contrary contained in this Lease, in no event shall Tenant be responsible for removing any of Landlord's Work. Tenant shall not permit or commit any waste, and Tenant shall be responsible for the cost of repairs which may be made necessary by reason of damage to common areas in the Building or to the Site caused by Tenant, Tenant's agents, contractors, employees, sublessees, licensees, concessionaires or invitees. Notwithstanding anything contained in this Lease to the contrary, Tenant shall not be required to remove any of Tenant's Work except to the extent Landlord reasonably determines such improvements will materially impair the future marketability of the Premises for office and light manufacturing use and Landlord notifies Tenant in writing that Landlord will require removal of such improvements at the time Landlord approves Tenant's Plans.

5.3 Use

From the commencement of the Term, to use and occupy the Premises for the Permitted Use only, and not to injure or deface the Premises, Building, the Site or any other part of the Complex nor to permit in the Premises or on the Site any auction sale, nuisance, or the emission from the Premises of any objectionable noise or odor, nor to suffer or permit in the Premises any leakage of fluid or the growth of mold, and not to use or devote the Premises or any part thereof for any purpose other than the Permitted Uses, nor any use thereof which is inconsistent with the maintenance of the Building as an office and laboratory building of the first class in the quality of its maintenance, use and occupancy, or which is contrary to law or ordinance or liable to invalidate or increase the premium for any insurance on the Building and its contents or liable to render necessary any alteration or addition to the Building.

For purposes of this Lease, the term "Hazardous Materials" shall mean and refer to any substance which is or may hereafter be classified as a hazardous material, waste or substance under federal, state or local laws, rules and regulations, including, without limitation, 42 U.S.C. Section 6901 et seq., 42 U.S.C. Section 9601 et seq., 42 U.S.C. Section 2601 et seq., 49 U.S.C. Section 1802 et seq. and Massachusetts General Laws, Chapter 21E, and the National Fire Protection Association NFPA 45: Standards of Fire Protection for Laboratories Using Chemicals, and the rules and regulations promulgated under any of the foregoing, as such laws, rules and regulations may be amended from time to time (collectively "Hazardous Materials Laws").

Tenant shall not, nor shall Tenant permit its employees, invitees, agents, independent contractors, contractors, assignees or subtenants to, keep, maintain, use or store any Hazardous Materials in the Premises (other than the Hazardous Materials listed on the Tenant's Hazardous Materials list attached as Exhibit J or other Hazardous Materials in such limited amounts and for such purposes (such as cleaning) as may be permitted by applicable Legal Requirements ("Tenant's Hazardous Materials"), unless the same are approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed. All Tenant's Hazardous Materials shall at all times be brought upon, kept or used in accordance with all applicable Hazardous Materials Laws (hereinafter defined). Tenant shall deliver MSDS sheets (and proposed quantities) with all requests for approval of Hazardous Materials as required above, and shall be responsible for notifying all federal, state and local authorities (including the Town of Lexington Fire Department) of the use, storage and disposal of Hazardous Materials by Tenant to the extent required by applicable Legal Requirements. Tenant shall maintain at the Premises a list of all Hazardous Materials that the Tenant will keep, maintain, use or store at the Premises (the "Hazardous Materials Schedule"). On or before each anniversary of the Commencement Date, and on any earlier date during the 12-month period on which Tenant intends to add a new Hazardous Material or materially increase the quantity of any Hazardous Material to the Hazardous Materials Schedule, Tenant shall update the Hazardous Materials Schedule and deliver the same to Landlord for Landlord's approval with respect to such new or increased Hazardous Materials as required above. The Hazardous Materials Schedule shall be reasonably available to the Landlord at the Premises upon the Landlord's written request. Further, (i) Tenant shall not, nor shall Tenant permit its employees, invitees, agents, independent contractors, contractors, assignees or subtenants to, keep, maintain, store or dispose of (into the sewage or waste disposal system or otherwise) or engage in any activity which might produce or generate any Hazardous Materials except as indicated on the Hazardous Materials Schedule or except in such limited amounts and for such purposes (such as cleaning) as may be permitted by applicable Legal Requirements; (ii) Tenant shall immediately notify Landlord of any incident in, on or about the Premises, the Building or the Site that would require the filing of a notice under any Hazardous Materials Laws, (iii) Tenant shall comply and shall cause its employees, invitees, agents, independent contractors, contractors, assignees and subtenants to comply with each of the foregoing and (iv) Landlord shall have the right, at Landlord's expense, to make such reasonable inspections (including reasonable testing) upon reasonable notice to Tenant, at reasonable times, in the presence of a Tenant representative and subject to Tenant's reasonable confidentiality and security policies, as Landlord shall reasonably elect from time to time to determine that Tenant is complying with the foregoing. Landlord shall not unreasonably interfere with Tenant's business or laboratory or manufacturing operations in exercising such rights and Landlord shall promptly restore any portion or area of the Premises affected by such inspections or testing.

Notwithstanding anything to the contrary contained in this Lease, prior to the expiration or earlier termination of the Term, Tenant shall clean and otherwise cause the Premises to be "decommissioned" in accordance with all applicable Hazardous Materials Laws and shall leave the Premises and the Building (and the piping, sewage or waste disposal system, supply lines, drains and storage containers and basins serving the same, and all exhaust or other ductwork) free of all chemicals, blood, blood products, viruses, biological products and other Hazardous Materials resulting from Tenant's use or occupancy of the Premises. Without limiting the foregoing, upon expiration or earlier termination of the Lease, Tenant shall provide Landlord, at Tenant's sole cost and expense, with a so-called "Clean Certificate" from a reputable, experienced third party environmental engineer or industrial hygienist, licensed to do business in the Commonwealth of Massachusetts, dated within thirty (30) days after the expiration or early termination of the Term certifying to the Landlord that (a) the Premises, the Building and the pipes, sewage or waste disposal system, supply lines, drains, storage containers, basins, exhaust and ductwork are free from chemicals, blood, blood products, viruses, biological products and other Hazardous Materials, (b) the Premises, the Building and the pipes, sewage or waste disposal system, supply lines, drains, storage containers, ductwork and exhaust serving the Premises have been sanitized in accordance with applicable Hazardous Materials Laws, (c) any radioactive materials, biological or chemical safety cabinets located, storage rooms or the storage areas in the Premises have been emptied and decontaminated in accordance with applicable Hazardous Materials Laws. If Tenant fails to perform such obligations under this paragraph, without limiting any other right or remedy, Landlord may, on fifteen (15) business days' prior written notice to Tenant perform such obligations at Tenant's reasonable expense, and Tenant shall within thirty (30) days of demand reimburse Landlord for all reasonable out-of-pocket costs and expenses incurred by Landlord in connection with such work. Tenant's obligations under this paragraph shall survive the expiration or earlier termination of this Lease.

Landlord represents to Tenant that (i) to Landlord's actual knowledge as of the date of this Lease, there are no Hazardous Materials in, at or under the Building, the Premises or the Complex which are required to be removed or otherwise abated in accordance with applicable Hazardous Materials Laws, and (ii) the Landlord's Work shall be performed in compliance with all Legal Requirements. Landlord shall promptly provide Tenant with copies of any written notices Landlord receives related to the existence of Hazardous Materials in, at or under the Building, the Premises or the Complex in violation of Hazardous Materials Laws.

5.4 Obstructions; Items Visible from Exterior; Rules and Regulations

Not without prior consent of Landlord, which shall not be unreasonably withheld, conditioned or delayed, to permit the painting or placing of any signs, awnings, aerials or flagpoles, or the like, visible from outside the Premises; and to comply with all reasonable rules and regulations or the requirements of any customer handbook hereafter implemented (subject to the following paragraph), for the care and use of the Building and Site and their facilities and approaches. Without in any way limiting Landlord's approval rights, in no event shall Tenant have the right to construct or otherwise place on or over windows any shades, coverings of any nature or type or any darkening or light reducing or blocking materials. If and to the extent there is any conflict between the provisions of this Lease and any rules and regulations or customer handbook for the Building, the provisions of this Lease shall control.

Tenants shall comply with any rules and regulations hereafter enacted, provided that such rules and regulations (i) are not inconsistent with this Lease and do not materially impair the rights granted to Tenant hereunder or materially increase any of Tenant's obligations hereunder, and (ii) compliance with such rules and regulations will not materially interfere with Tenant's normal business operations.

5.5 Safety Appliances

To keep the Premises equipped with all safety appliances required by any public authority because of any use made by Tenant other than normal office use, and to procure all licenses and permits so required because of such use and, if reasonably requested in writing by Landlord, to do any work so reasonably required because of such use or required by such public authority, it being understood that the foregoing provisions shall not be construed to broaden in any way Tenant's Permitted Use.

5.6 Assignment; Sublease

Except as otherwise expressly provided herein, Tenant covenants and agrees that it shall not assign, mortgage, pledge, hypothecate or otherwise transfer this Lease and/or Tenant's interest in this Lease or sublet (which term, without limitation, shall include granting of concessions, licenses or the like) the whole or any part of the Premises. The following shall be deemed an assignment within the meaning of this Section 5.6, subject to the provisions of Section 5.6.4 below: (a) the merger or consolidation of Tenant into or with any other entity, or the sale of all or substantially all of its assets, and (b) the establishment by the Tenant or a permitted successor or assign of one or more series of series of (1) members, managers, limited liability company interests or assets, which may have separate rights, powers or duties with respect to specified property or obligations of the Tenant (or such successor or assignee) or profits or losses associated with specified property or obligations of the Tenant (or such successor or assignee), pursuant to §18-215 of the Delaware Limited Liability Company Act, as amended, or similar laws of other states or otherwise, or (2) limited partners, general partners, partnership interests or assets, which may have separate rights, powers or duties with respect to specified property or obligations of the Tenant (or such successor or assignee) or profits or losses associated with specified property or obligations of the Tenant (or such successor or assignee) pursuant to §17-218 of the Delaware Revised Uniform Limited Partnership Act, as amended, or similar laws of other states or otherwise (a "Series Reorganization"). Any assignment, mortgage, pledge, hypothecation, transfer or subletting not expressly permitted in or consented to by Landlord under Section 5.6 shall, at Landlord's election, be void; shall be of no force and effect; and shall confer no rights on or in favor of third parties. In addition, Landlord shall be entitled to seek specific performance of or other equitable relief with respect to the provisions hereof. The limitations of this Section 5.6 shall be deemed to apply to any guarantor(s) of this Lease.

5.6.1 Notwithstanding the provisions of Section 5.6 above, in the event Tenant desires to assign this Lease or to sublet all or any portion of the Premises, Tenant shall give Landlord notice (the "Proposed Transfer Notice") of any proposed sublease or assignment, and said notice shall specify the provisions of the proposed assignment or subletting, including (a) the name and address of the proposed assignee or subtenant, (b) in the case of a proposed assignment or subletting pursuant to Section 5.6.3 below, such information as to the proposed assignee's or proposed subtenant's net worth and financial capability and standing as may reasonably be required for Landlord to make the determination referred to in said Section 5.6.3 (provided, however, that Landlord shall hold such information confidential having the right to release same to its officers, accountants, attorneys and mortgage lenders on a confidential basis), (c) all of the terms and provisions upon which the proposed assignment or subletting is to be made, (d) in the case of a proposed assignment or subletting pursuant to Section 5.6.3 below, all other information necessary to make the determination referred to in said Section 5.6.3 and (e) in the case of a proposed assignment or subletting pursuant to Section 5.6.4 below and to the extent permitted by law in advance of any transaction described in such Section 5.6.4 otherwise promptly thereafter, such information as may be reasonably required by Landlord to determine that such proposed assignment or subletting complies with the requirements of said Section 5.6.4.

5.6.2 With respect to an assignment of this Lease or a sublet of the entire Premises, Landlord shall have the right at its sole option, to be exercised within thirty (30) days after receipt of Tenant's Proposed Transfer Notice (the "Acceptance Period"), to terminate this Lease as of a date specified in a notice to Tenant, which date shall not be earlier than sixty (60) days nor later than one hundred and twenty (120) days after Landlord's notice to Tenant; provided, however, that upon the termination date as set forth in Landlord's notice, all obligations relating to the period after such termination date (but not those relating to the period before such termination date) shall cease and promptly upon being billed therefor by Landlord, Tenant shall make final payment of all Annual Fixed Rent and Additional Rent due from Tenant through the termination date. In the event that Landlord shall not exercise its termination rights as aforesaid, or shall fail to give any or timely notice pursuant to this Section the provisions of Sections 5.6.3, 5.6.5 and 5.6.6 shall be applicable. This Section 5.6.2 shall not be applicable to an assignment or sublease pursuant to Section 5.6.4.

5.6.3 Notwithstanding the provisions of Section 5.6 above, but subject to the provisions of this Section 5.6.3 and the provisions of Sections 5.6.5 and 5.6.6 below, in the event that Landlord shall not have exercised the termination right as set forth in Section 5.6.2, or shall have failed to give any or timely notice under Section 5.6.2, then for a period of ninety (90) days (i) after the receipt of Landlord's notice stating that Landlord does not elect the termination right, or (ii) after the expiration of the Acceptance Period, in the event Landlord shall not give any or timely notice under Section 5.6.2 as the case may be, Tenant shall have the right to assign this Lease or sublet the Premises in accordance with the Proposed Transfer Notice provided that, in each instance, Tenant first obtains the express prior written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed. Landlord shall respond to Tenant's request for consent to a proposed assignment or sublet within thirty (30) days after receipt of Tenant's Proposed Transfer Notice.

Without limiting the foregoing standard, Landlord shall not be deemed to be unreasonably withholding its consent to such a proposed assignment or subleasing if:

(a) the proposed assignee or subtenant is not of a character consistent with the operation of a first class office and laboratory building (by way of example Landlord shall not be deemed to be unreasonably withholding its consent to an assignment or subleasing to any governmental or quasi-governmental agency), or

(b) the proposed assignee or subtenant is not of good character and reputation, or

(c) the proposed assignee or subtenant does not possess adequate financial capability to perform the Tenant obligations as and when due or required, or

(d) the assignee or subtenant proposes to use the Premises (or part thereof) for a purpose other than the purpose for which the Premises may be used as stated in Section 1.1 hereof, or

(e) the character of the business to be conducted or the proposed use of the Premises by the proposed subtenant or assignee shall violate or be likely to violate any provisions or restrictions contained herein relating to the use or occupancy of the Premises, or

(f) there shall then be existing an Event of Default (defined in Section 7.1), or

(g) any part of the rent payable under the proposed assignment or sublease shall be based in whole or in part on the income or profits derived from the Premises or if any proposed assignment or sublease shall potentially have any material adverse effect on the real estate investment trust qualification requirements applicable to Landlord and its affiliates, or

(h) the holder of any mortgage or ground lease on property which includes the Premises does not approve of the proposed assignment or sublease.

If Landlord shall consent to the proposed assignment or subletting, as the case may be, then, in such event, Tenant may thereafter sublease (the whole but not part of the Premises) or assign pursuant to Tenant's notice, as given hereunder; provided, however, that if such assignment or sublease shall not be executed and delivered to Landlord within one hundred eighty (180) days after the date of Landlord's consent, the consent shall be deemed null and void and the provisions of Section 5.6.1 shall be applicable.

5.6.4 Notwithstanding the provisions of Sections 5.6, 5.6.2, 5.6.3 and 5.6.5, but subject to the provisions of Sections 5.6.1 and 5.6.6, Tenant shall have the right:

(x) to assign this Lease or to sublet the Premises (in whole or in part) to any other entity (the "Successor Entity") (i) which controls or is controlled by Tenant or Tenant's parent corporation or which is under common control with Tenant, provided that such transfer or transaction is for a legitimate business purpose of Tenant other than a transfer of Tenant's interest in this Lease, or (ii) which purchases all or substantially all of the assets of Tenant, or (iii) which purchases all or substantially all of the stock of (or other ownership or membership interests in) Tenant or (iv) which merges or combines with Tenant, or

(y) to effect a Series Reorganization, or

(z) to engage in a Majority Interest Transfer,

provided that in any of the foregoing events described in clauses (y) and (z) above, the transaction is for a legitimate business purpose of Tenant other than the limitation or segregation of the liabilities of Tenant, and provided further that in any of the foregoing events described in in (x), (y) and (z) the entity to which this Lease is so assigned or which so sublets the Premises or the series established by the Series Reorganization possesses adequate financial capability to perform the obligations of the Tenant under this Lease as and when due or required (the foregoing transferees referred to, individually or collectively, as a "Permitted Transferee"). Except in cases of statutory merger or a Series Reorganization, in which case the surviving entity in the merger or the series to which this Lease has been designated shall be liable as the Tenant under this Lease, Tenant shall continue to remain fully liable under this Lease, on a joint and several basis with the Permitted Transferee. If any parent, affiliate or subsidiary of Tenant to which this Lease is assigned or the Premises sublet (in whole or in part) shall cease to be such a parent, affiliate or subsidiary, such cessation shall be considered an assignment or subletting requiring Landlord's consent.

5.6.5 In the case of any assignment or subleasing as to which Landlord may consent (other than an assignment or subletting permitted under Section 5.6.4 above) such consent shall be upon the express and further condition, covenant and agreement, and Tenant hereby covenants and agrees that, in addition to the Annual Fixed Rent, Additional Rent and other charges to be paid pursuant to this Lease, fifty percent (50%) of the "Assignment/Sublease Profits" (hereinafter defined), if any, shall be paid to Landlord. The "Assignment/Sublease Profits" shall be the excess, if any, of (a) the "Assignment/Sublease Net Revenues" as hereinafter defined over (b) the Annual Fixed Rent and Additional Rent and other charges provided in this Lease (provided, however, that for the purpose of calculating the Assignment/Sublease Profits in the case of a sublease, appropriate prorations in the applicable Annual Fixed Rent, Additional Rent and other charges under this Lease shall be made based on the percentage of the Premises subleased and on the terms of the sublease). The "Assignment/Sublease Net Revenues" shall be the fixed rent, Additional Rent and all other charges and sums payable either initially or over the term of the sublease or assignment plus all other profits and increases to be derived by Tenant as a result of such subletting or assignment, less the reasonable costs of Tenant incurred in such subleasing or assignment (the definition of which shall be limited to brokerage commissions, legal fees and alteration allowances, in each case actually paid), as set forth in a statement certified by an appropriate officer of Tenant and delivered to Landlord within thirty (30) days of the full execution of the sublease or assignment document, amortized over the term of the sublease or assignment.

All payments of the Assignment/Sublease Profits due Landlord shall be made within thirty (30) days of receipt of same by Tenant.

5.6.6 (A) It shall be a condition of the validity of any assignment or subletting consented to under Section 5.6.3 above, or any assignment or subletting of right under Section 5.6.4 above, that both Tenant and the assignee or sublessee enter into a separate written instrument directly with Landlord in a form and containing terms and provisions reasonably required by Landlord, including, without limitation, the agreement of the assignee or sublessee to be bound directly to Landlord for all the obligations of the Tenant under this Lease (including any amendments or extensions thereof), including, without limitation, the obligation (a) to pay the rent and other amounts provided for under this Lease (but in the case of a partial subletting pursuant to Section 5.6.4, such subtenant shall agree on a pro rata basis to be so bound), (b) to comply with the provisions of Sections 5.6 through 5.6.6 hereof and (c) to indemnify the "Landlord Parties" (as defined in Section 8.13) as provided in Section 8.1 hereof. Such assignment or subletting shall not relieve the Tenant named herein of any of the obligations of the Tenant hereunder and Tenant shall remain fully and primarily liable therefor and the liability of Tenant and such assignee (or subtenant, as the case may be) shall be joint and several. Further, and notwithstanding the foregoing, the provisions hereof shall not constitute a recognition of the sublease or the subtenant thereunder, as the case may be, and at Landlord's option, upon the termination or expiration of the Lease (whether such termination is based upon a cause beyond Tenant's control, a default of Tenant, the agreement of Tenant and Landlord or any other reason), the sublease shall be terminated.

(B) As Additional Rent, Tenant shall pay to Landlord as a fee for Landlord's review of any proposed assignment or sublease requested by Tenant and the preparation of any associated documentation in connection therewith, within thirty (30) days after receipt of an invoice from Landlord, an amount the reasonable out of pocket legal fees or other expenses incurred by Landlord in connection with such request, not to exceed $1,500 per request.

(C) If this Lease be assigned, or if the Premises or any part thereof be sublet or occupied by anyone other than Tenant, Landlord may upon prior notice to Tenant, at any time and from time to time, collect rent and other charges from the assignee, sublessee or occupant and apply the net amount collected to the rent and other charges herein reserved, but no such assignment, subletting, occupancy or collection shall be deemed a waiver of this covenant, or a waiver of the provisions of Sections 5.6 through 5.6.6 hereof, or the acceptance of the assignee, sublessee or occupant as a tenant or a release of Tenant from the further performance by Tenant of covenants on the part of Tenant herein contained, the Tenant herein named to remain primarily liable under this Lease.

(D) The consent by Landlord to an assignment or subletting under Section 5.6.3 above, or the consummation of an assignment or subletting of right under Section 5.6.4 above, shall in no way be construed to relieve Tenant from obtaining the express consent in writing of Landlord to any further assignment or subletting.

(E) On or after the occurrence of an "Event of Default" (defined in Section 7.1), Landlord shall be entitled to one hundred percent (100%) of any Assignment/Sublease Profits.

(F) Without limiting Tenant's obligations under Section 5.12, Tenant shall be responsible, at Tenant's sole cost and expense, for performing all work necessary to comply with Legal Requirements and Insurance Requirements in connection with any assignment or subletting hereunder including, without limitation, any work in connection with such assignment or subletting.

5.6.7 In addition to the other requirements set forth in this Lease and notwithstanding any other provision of this Lease, partial sublettings of the Premises shall only be permitted under the following terms and conditions: (i) the layout of both the subleased premises and the remainder of the Premises must comply with applicable Legal Requirements and be approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed, including, without limitation, all requirements concerning access and egress; (ii) in the event the subleased premises are separately physically demised from the remainder of the Premises, Tenant shall pay all costs of separately physically demising the subleased premises; and (iii) in no event may Tenant have more than two (2) sublettings in effect at any given time.

5.7 Right of Entry

To permit Landlord and its agents to examine the Premises at (i) reasonable times and upon reasonable notice (which shall be at least 24 hours' notice), (ii) accompanied by a representative of Tenant if Tenant so elects, and (iii) in compliance with Tenant's reasonable security requirements of which Landlord has been provided prior written notice (clauses (i) through (iii) collectively, the "Entry Requirements") and, if Landlord shall so elects, in compliance the Entry Requirements, (x) to make any repairs or replacements required of Landlord under this Lease or which Landlord may deem reasonably necessary, (y) to remove, at Tenant's expense, to the extent any such item requires the consent of Landlord under this Lease, any alterations, addition, signs, curtains, blinds, shades, awnings, aerials, flagpoles, or the like not permitted hereunder or otherwise consented to in writing, or (z) to show the Premises to prospective tenants during the eleven (11) months preceding expiration of the Term and to prospective purchasers. Notwithstanding the foregoing, the building superintendent and those individuals involved in the regular maintenance of the Building shall not be subject to the Entry Requirements. Further notwithstanding anything in the foregoing to the contrary, in the event of an emergency that could cause damage to health, safety or property, Landlord shall use good faith efforts to follow Tenant's Entry Requirements and in such event Landlord will be required to give only such notice that it in good faith believes is feasible under the circumstances and need not wait to be accompanied by Tenant or its employees or representatives (although these parties may still accompany Landlord if they are available and wish to do so). Tenant's failure to provide a representative at the time of entry by Landlord shall not limit Landlord's rights hereunder.

In the event Tenant sends a notice alleging the existence of a dangerous or unsafe condition, any requirements for prior notice or limitations on Landlord's access to the Premises contained in this Lease shall be deemed waived by Tenant so that Landlord may immediately exercise its rights under this Section 5.7 and Section 9.16 in such manner as Landlord reasonably deems necessary in its sole discretion to remedy such dangerous or unsafe condition.

5.8 Floor Load; Prevention of Vibration

Not to place a load upon the Premises exceeding an average rate of 150 pounds of live load per square foot of floor area (partitions shall be considered as part of the live load). Tenant's business machines and mechanical equipment which cause vibration that may be transmitted to the Building structure or to any other space in the Building shall be so installed, maintained and used by Tenant so as to avoid any damage to the Building.

5.9 Personal Property Taxes

To pay promptly when due all taxes which may be imposed upon "Tenant's Property" (as defined in Section 8.4 hereof) in the Premises to whomever assessed.

5.10 Compliance with Laws

To comply with all applicable Legal Requirements now or hereafter in force regarding the operation of Tenant's business and the use, condition, configuration and occupancy of the Premises, including without limitation, all applicable standards and regulations of the Federal Occupational Safety and Health Administration ("OSHA Requirements"), which obligation shall include ensuring that all contractors (including sub-contractors) that Tenant utilizes to perform work in the Premises comply with OSHA Requirements and that all required training is provided for such work. In addition, Tenant shall, at its sole cost and expense, promptly comply with any Legal Requirements that relate to the Base Building (as hereinafter defined), but only to the extent such obligations are triggered by Tenant's specific use of the Premises, other than for general office use, or alterations, additions or improvements in the Premises performed or requested by Tenant. "Base Building" shall mean and be limited to the structural portions of the Building including the foundation, the entrances and exits to the Building, the restrooms and the Building mechanical, electrical and plumbing systems and equipment located in the internal core of the Building. Tenant shall promptly pay all fines, penalties and damages that may arise out of or be imposed because of its failure to comply with the provisions of this Section 5.10.

As of the date of this Lease, Landlord has not received notice from any governmental agencies of any existing condition in the Building or on the Site which remains in violation of applicable Legal Requirements. On the Commencement Date, Landlord shall deliver the Landlord's Work, the Building and Site (excluding Tenant's Work and Legal Requirements triggered by Tenant's Work), in compliance with applicable Legal Requirements.

5.11 Payment of Litigation Expenses

As Additional Rent, to pay all reasonable costs, counsel and other fees incurred by Landlord in connection with the successful enforcement by Landlord of any obligations of Tenant under this Lease or in connection with any bankruptcy case involving Tenant or any guarantor. Landlord hereby similarly agrees to pay all reasonable costs, counsel and other fees incurred by Tenant in connection with the successful enforcement by Tenant of any obligations of Landlord under this Lease or in connection with any bankruptcy case involving Landlord.

5.12 Alterations

Tenant shall not make alterations and additions to Tenant's Premises except in accordance with plans and specifications therefor first approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed. However, Landlord's determination of matters relating to aesthetic issues relating to alterations, additions or improvements which are visible outside the Premises shall be in Landlord's sole discretion. Without limiting such standard Landlord shall not be deemed unreasonable for withholding approval of any alterations or additions (including, without limitation, any alterations or additions to be performed by Tenant under Article III) which (a) in Landlord's opinion might adversely affect any structural or exterior element of the Building, any area or element outside of the Premises, or any facility or base building mechanical system serving any area of the Building outside of the Premises, or (b) involve or affect the exterior design, size, height, or other exterior dimensions of the Building or (c) will require unusual expense to readapt the Premises to normal office use on Lease termination or expiration or increase the cost of construction or of insurance or taxes on the Building or of the services called for by Section 4.1 unless Tenant first gives assurance acceptable to Landlord for payment of such increased cost and that such readaptation will be made prior to such termination or expiration without expense to Landlord, (d) enlarge the Rentable Floor Area of the Premises, or (e) are inconsistent, in Landlord's judgment, with alterations satisfying Landlord's standards for new alterations in the Building. Landlord's review and approval of any such plans and specifications and consent to perform work described therein shall not be deemed an agreement by Landlord that such plans, specifications and work conform with applicable Legal Requirements and requirements of insurers of the Building and the other requirements of this Lease with respect to Tenant's insurance obligations (herein called "Insurance Requirements") nor deemed a waiver of Tenant's obligations under this Lease with respect to applicable Legal Requirements and Insurance Requirements nor impose any liability or obligation upon Landlord with respect to the completeness, design sufficiency or compliance of such plans, specifications and work with applicable Legal Requirements and Insurance Requirements nor give right to any other parties. Landlord shall respond to Tenant's request for consent to any alterations, additions or improvements within fifteen (15) days after receipt of plans and specifications for the same, including, providing details on any reasons for disapproval, and Landlord shall respond to any resubmissions with respect to such alterations, additions or improvements within seven (7) days. Further, Tenant acknowledges that Tenant is acting for its own benefit and account, and that Tenant shall not be acting as Landlord's agent in performing any work in the Premises, accordingly, no contractor, subcontractor or supplier shall have a right to lien Landlord's interest in the Complex in connection with any work. Within thirty (30) days after receipt of an invoice from Landlord, Tenant shall pay to Landlord as a fee for Landlord's review of any work or plans, as Additional Rent, all reasonable third party expenses incurred by Landlord to review Tenant's plans and Tenant's work. Except for any additions or alterations which Tenant requests to remain in the Premises in Tenant's notice seeking Landlord's consent for the installation thereof (which notice shall specifically refer to this Section 5.12) and for which Landlord specifically agrees in writing may remain, all alterations and additions shall be part of the Building unless and until Landlord shall specify the same for removal pursuant to Section 5.2. It is agreed that in no event shall Tenant be obligated to remove any of Landlord's Work, nor shall Tenant be required to remove any of Tenant's Work except to the extent Landlord reasonably determines such improvements will materially impair the future marketability of the Premises for office and light manufacturing use and Landlord notifies Tenant in writing that Landlord will require removal of such improvements at the time Landlord approves Tenant's Plans. All of Tenant's alterations and additions and installation of furnishings shall be coordinated with any work being performed by Landlord and in such manner as to maintain harmonious labor relations and not to damage the Buildings or Site or interfere with construction or operation of the Buildings and other improvements to the Site and, except for installation of furnishings, shall be performed by a general contractor or by contractors or workers selected by Tenant and approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed. Except for work by Landlord's general contractor, Tenant, before its work is started, shall secure all licenses and permits necessary therefor; deliver to Landlord a statement of the names of all its contractors and subcontractors and the estimated cost of all labor and material to be furnished by them and security satisfactory to Landlord protecting Landlord against liens arising out of the furnishing of such labor and material; and cause each contractor to carry insurance in accordance with Section 8.14 herein and to deliver to Landlord certificates of all such insurance. Tenant shall also prepare and submit to Landlord a set of as-built plans, in both print and electronic forms, showing such work performed by Tenant to the Premises promptly after any such alterations, improvements or installations are substantially complete and promptly after any wiring or cabling for Tenant's computer, telephone and other communications systems is installed by Tenant or Tenant's contractor. Without limiting any of Tenant's obligations hereunder, Tenant shall be responsible, as Additional Rent, for the costs of any alterations, additions or improvements in or to the Building that are required in order to comply with Legal Requirements as a result of any work performed by Tenant. Landlord shall have the right to provide such reasonable rules and regulations relative to the performance of any alterations, additions, improvements and installations by Tenant hereunder and Tenant shall abide by all such reasonable rules and regulations and shall cause all of its contractors to so abide including, without limitation, payment for the costs of using Building services provided such rules and regulations are delivered to Tenant no later than the date on which Landlord consents to the same hereunder (or if consent is not required, then provided the same are delivered to Tenant within five (5) days after Tenant notifies Landlord of its intent to perform the same). Tenant agrees to pay promptly when due the entire cost of any work done on the Premises by Tenant, its agents, employees, or independent contractors, and not to cause or permit any liens for labor or materials performed or furnished in connection therewith to attach to the Premises or the Buildings or the Site and discharge any such liens which may so attach within fifteen (15) days after notice thereof. Tenant shall pay, as Additional Rent, 100% of any real estate taxes on the Complex which shall, at any time after commencement of the Term, result from any alteration, addition or improvement to the Premises made by Tenant. Tenant acknowledges and agrees that Landlord shall be the owner of any additions, alterations and improvements in the Premises or the Building to the extent paid for by Landlord.

Notwithstanding the terms of this Section 5.12, Tenant shall have the right, without obtaining the prior consent of Landlord but upon prior notice to Landlord, to make alterations, additions or improvements to the Premises where:

(i) the same are within the interior of the Premises within the Building, and do not affect the exterior of the Premises and the Building (including no signs on windows);

(ii) the same do not affect the roof, any structural element of the Building, the mechanical, electrical, plumbing, heating, ventilating, air-conditioning and fire protection systems of the Building;

(iii) the cost of any individual alteration, addition or improvement shall not exceed $50,000 and the aggregate cost of said alterations, additions or improvements made by Tenant during the Lease Term shall not exceed $300,000 in cost (it being agreed that the costs of any painting and carpeting projects shall not count against the limits set forth above); and

(iv) Tenant shall comply with the provisions of this Lease and if such work increases the cost of insurance or taxes or of services, Tenant shall pay for any such increase in cost;

provided, however, that Tenant shall, within thirty (30) days after the making of such changes, send to Landlord plans and specifications describing the same in reasonable detail; and provided further that Landlord, by notice to Tenant within thirty (30) days after receipt of such plans and specifications, may require Tenant to restore the Premises to its condition prior to such alteration, addition or improvement at the expiration or earlier termination of the Lease Term.

Notwithstanding anything contained in this Section 5.12 to the contrary or Exhibit B-2 (Work Agreement), in the event of any conflict or inconsistency between the provisions of this Section 5.12 and the provisions of Exhibit B-2 (Work Agreement) attached hereto, the provisions of Exhibit B-2 (Work Agreement) shall govern and control with respect to Tenant's Work and the provisions of this Section 5.12 shall govern and control with all alterations and work performed thereafter.

5.13 Vendors

Any vendors engaged by Tenant to perform services in or to the Premises including, without limitation, janitorial contractors and moving contractors shall be coordinated with any work being performed by or for Landlord and in such manner as to maintain harmonious labor relations and not to damage the Building or the Complex or interfere with Building construction or operation and shall be performed by vendors first approved by Landlord.

5.14 OFAC

(a) As an inducement to Landlord to enter into this Lease, Tenant hereby represents and warrants that: (i) Tenant is not, nor is it owned or controlled directly or indirectly by, any person, group, entity or nation named on the Specially Designated Nationals and Blocked Persons List maintained by the United States Treasury ("OFAC") (any such person, group, entity or nation being hereinafter referred to as a "Prohibited Person"); (ii) Tenant is not (nor is it owned, controlled, directly or indirectly, by any person, group, entity or nation which is) acting directly or indirectly for or on behalf of any Prohibited Person; and (iii) Tenant (and any person, group, or entity which Tenant controls, directly or indirectly) has not conducted nor will conduct business nor has engaged nor will engage in any transaction or dealing with any Prohibited Person that either may cause or causes Landlord to be in violation of any OFAC rule or regulation, including without limitation any assignment of this Lease or any subletting of all or any portion of the Premises. In connection with the foregoing, it is expressly understood and agreed that (x) any breach by Tenant of the foregoing representations and warranties shall be deemed an immediate Event of Default by Tenant under Section 7.1 of this Lease (without the benefit of notice or grace) and shall be covered by the indemnity provisions of Section 8.1 below, and (y) the representations and warranties contained in this subsection shall be continuing in nature and shall survive the expiration or earlier termination of this Lease.

(B) As an inducement to Tenant to enter into this Lease, Landlord hereby represents and warrants that: (i) Landlord is not, nor is it owned or controlled directly or indirectly by, any person, group, entity or nation named on any list issued by the Office of Foreign Assets Control of the United States Department of the Treasury ("OFAC") pursuant to Executive Order 13224 or any similar list or by any law, order, rule or regulation or any Executive Order of the President of the United States as a terrorist, "Specially Designated National and Blocked Person" or other banned or blocked person (any such person, group, entity or nation being hereinafter referred to as a "Prohibited Person"); (ii) Landlord is not (nor is it owned or controlled, directly or indirectly, by any person, group, entity or nation which is) acting directly or indirectly for or on behalf of any Prohibited Person; and (iii) neither Landlord (nor any person, group, entity or nation which owns or controls Landlord, directly or indirectly) has conducted or will conduct business or has engaged or will engage in any transaction or dealing with any Prohibited Person, including without limitation the making or receiving of any contribution of funds, goods or services to or for the benefit of a Prohibited Person. In connection with the foregoing, is expressly understood and agreed that the representations and warranties contained in this subsection shall be continuing in nature and shall survive the expiration or earlier termination of this Lease. Notwithstanding anything contained herein to the contrary, for the purposes of this subsection (B) the phrase "owned or controlled directly or indirectly by any person, group, entity or nation" and all similar such phrases shall not include (x) any shareholder of Boston Properties, Inc., (y) any holder of a direct or indirect interest in a publicly traded company whose shares are listed and traded on a United States national stock exchange or (z) any limited partner, unit holder or shareholder owning an interest of five percent (5%) or less in Boston Properties Limited Partnership or the holder of any direct or indirect interest in Boston Properties Limited Partnership.

ARTICLE VI

Casualty and Taking

6.1 Damage Resulting From Casualty

In case the Building or the Site are damaged by fire or casualty and such fire or casualty damage cannot, in the ordinary course, reasonably be expected to be repaired within two hundred forty (240) days from the date of fire or casualty as certified by Landlord's architect (the "Certification"), Landlord or Tenant may, each at its election, terminate this Lease by notice given to the other within sixty (60) days after the receipt of the Certification, specifying the effective date of termination. The effective date of termination specified by the terminating party shall not be less than thirty (30) days nor more than forty-five (45) days after the date of notice of such termination. In the event of such termination, neither party shall have any liability hereunder except with respect to obligations arising prior to the effective date of such termination or except to the extent the same are expressly stated to survive expiration or earlier termination hereof.

In case during the last year of the Lease Term, the Premises are damaged by fire or casualty and such fire or casualty damage cannot, in the ordinary course, reasonably be expected to be repaired within one hundred twenty (120) days (and/or as to special work or work which requires long lead time then if such work cannot reasonably be expected to be repaired within such additional time as is reasonable under the circumstances given the nature of the work) from the date of such fire or casualty, Tenant may, at its election, terminate this Lease by notice given to Landlord within sixty (60) days after the date of such fire or other casualty, specifying the effective date of termination. The effective date of termination specified by Tenant shall be not less than thirty (30) days nor more than forty-five (45) days after the date of notice of such termination.

Unless terminated pursuant to the foregoing provisions, this Lease shall remain in full force and effect following any such damage subject, however, to the following provisions.

If the Building or the Site or any part thereof are damaged by fire or other casualty and this Lease is not so terminated, or Landlord or Tenant have no right to terminate this Lease, and in any such case the holder of any mortgage which includes the Building as a part of the mortgaged premises or any ground lessor of any ground lease which includes the Site as part of the demised premises allows the net insurance proceeds to be applied to the restoration of the Building (and/or the Site), Landlord promptly after such damage and the determination of the net amount of insurance proceeds available, shall use due diligence to restore the Premises and the Building in the event of damage thereto (excluding "Tenant's Property" (as defined in Section 8.4 hereof), except as expressly provided in the immediately following paragraph of this Section 6.1) into proper condition for use and occupation and a just proportion of the Annual Fixed Rent, Tenant's payments towards Landlord's Operating Expenses and Landlord's Tax Expenses according to the nature and extent of the injury to the Premises shall be abated until the Premises shall have been put by Landlord substantially into such condition except for punch list items and long lead items. Notwithstanding anything herein contained to the contrary, Landlord shall not be obligated to expend for such repair and restoration any amount in excess of the net insurance proceeds.

Notwithstanding the foregoing, if Landlord is proceeding with the restoration of the Building and the Premises in accordance with the previous paragraph, Landlord shall also restore any alterations, additions or improvements within the Premises that are part of Tenant's Property (x) which have previously been approved by Landlord in accordance with the terms and provisions of this Lease or which are existing in the Premises as of the date of this Lease, and (y) with respect to which Tenant has carried "all risk" insurance covering the loss or damage in accordance with Section 8.4 below and pays the proceeds of such insurance (or an amount equivalent thereto) to Landlord within five (5) business days following Landlord's written request to the extent Tenant has actually received the same; provided, however, that in no event shall Landlord be required to fund any insufficiency in the insurance proceeds (or equivalent amount) provided by Tenant with respect to such loss or damage (or to fund any of the costs of restoration in the absence of any payment by Tenant).

Notwithstanding anything contained herein to the contrary, if such restoration is not completed within the greater of (i) two hundred and forty (240) days from the date of the casualty or taking, or (ii) the period stated by Landlord's architect in the Certification (the longer of such periods being the "Restoration Period"), such period to be subject, however, to extension where the delay in completion of such work is due to Force Majeure, as defined hereinbelow, (but in no event beyond twelve (12) months from the date of the casualty or taking), Tenant, as its sole and exclusive remedy, shall have the right to terminate this Lease at any time after the expiration of such Restoration Period (as so extended) period until the restoration is substantially completed, such termination to take effect as of the thirtieth (30th) day after the date of receipt by Landlord of Tenant's notice, with the same force and effect as if such date were the date originally established as the expiration date hereof and neither party shall have any further liability except as expressly stated herein to so survive such expiration or earlier termination hereof unless, within thirty (30) days after Landlord's receipt of Tenant's notice, such restoration is substantially completed, in which case Tenant's notice of termination shall be of no force and effect and this Lease and the Lease Term shall continue in full force and effect. When used herein, "Force Majeure" shall mean any prevention, delay or stoppage due to governmental regulation, strikes, lockouts, acts of God, acts of war, terrorists acts, civil commotions, unusual scarcity of or inability to obtain labor or materials, labor difficulties, fire or other casualty (including the time necessary to repair any damage caused thereby) or other causes reasonably beyond Landlord's control or attributable to Tenant's action or inaction.

6.2 Uninsured Casualty

Notwithstanding anything to the contrary contained in this Lease, if the Building or the Premises shall be substantially damaged by fire or casualty as the result of a risk not required to be maintained by Landlord and such fire or casualty damage cannot, in the ordinary course, reasonably be expected to be repaired within ninety (90) days from the time that repair work would commence, Landlord may, at its election, terminate the Term of this Lease by notice to the Tenant given within sixty (60) days after such loss. If Landlord shall give such notice, then this Lease shall terminate as of the date of such notice with the same force and effect as if such date were the date originally established as the expiration date hereof and neither party shall have any further liability except as expressly stated herein to so survive such expiration or earlier termination hereof.

6.3 Rights of Termination for Taking

If the entire Building, or such portion of the Premises as to render the balance (if reconstructed to the maximum extent practicable in the circumstances) unsuitable for Tenant's purposes, shall be taken by condemnation or right of eminent domain, Landlord or Tenant shall have the right to terminate this Lease by notice to the other of its desire to do so, provided that such notice is given not later than thirty (30) days after Tenant has been deprived of possession. If either party shall give such notice, then this Lease shall terminate as of the date of such notice with the same force and effect as if such date were the date originally established as the expiration date hereof and neither party shall have any further liability except as expressly stated herein to so survive such expiration or earlier termination hereof.

Further, if so much of the Building shall be so taken that continued operation of the Building would be uneconomic as a result of the taking, Landlord shall have the right to terminate this Lease by giving notice to Tenant of Landlord's desire to do so not later than thirty (30) days after Tenant has been deprived of possession of the Premises (or such portion thereof as may be taken). If Landlord shall give such notice, then this Lease shall terminate as of the date of such notice with the same force and effect as if such date were the date originally established as the expiration date hereof.

Should any part of the Premises be so taken or condemned during the Lease Term hereof, and should this Lease not be terminated in accordance with the foregoing provisions, and the holder of any mortgage which includes the Premises as part of the mortgaged premises or any ground lessor of any ground lease which includes the Site as part of the demised premises allows the net condemnation proceeds to be applied to the restoration of the Building, Landlord agrees that after the determination of the net amount of condemnation proceeds available to Landlord, Landlord shall use due diligence to put what may remain of the Premises into proper condition for use and occupation as nearly like the condition of the Premises prior to such taking as shall be practicable (excluding Tenant's Property). Notwithstanding the foregoing, Landlord shall not be obligated to expend for such repair and restoration any amount in excess of the net condemnation proceeds made available to it.

If the Premises shall be affected by any exercise of the power of eminent domain, then the Annual Fixed Rent shall be justly and equitably abated and reduced according to the nature and extent of the loss of use thereof suffered by Tenant; and in case of a taking which permanently reduces the Rentable Floor Area of the Premises, a just proportion of the Annual Fixed Rent shall be abated for the remainder of the Lease Term.

6.4 Award

Landlord shall have and hereby reserves to itself any and all rights to receive awards made for damages to the Premises, the Building, the Complex and the Site and the leasehold hereby created, or any one or more of them, accruing by reason of exercise of eminent domain or by reason of anything lawfully done in pursuance of public or other authority. Tenant hereby grants, releases and assigns to Landlord all Tenant's rights to such awards, and covenants to execute and deliver such further assignments and assurances thereof as Landlord may from time to time reasonably request.

Nothing contained herein shall be construed to prevent Tenant from prosecuting in any condemnation proceeding a claim for the value of any of Tenant's usual trade fixtures installed in the Premises by Tenant at Tenant's expense and for relocation and moving expenses, provided that such action and any resulting award shall not affect or diminish the amount of compensation otherwise recoverable by Landlord from the taking authority.

ARTICLE VII

Default

7.1 Tenant's Default

(a) If at any time subsequent to the date of this Lease any one or more of the following events (herein sometimes called an "Event of Default") shall occur:

(i) Tenant shall fail to pay the fixed rent, Additional Rent or other charges for which provision is made herein on or before the date on which the same become due and payable, and the same continues for five (5) business days after notice from Landlord thereof; or

(ii) intentionally omitted; or

(iii) Tenant shall assign its interest in this Lease or sublet any portion of the Premises in violation of the requirements of Section 5.6 through 5.6.6 of this Lease; or

(iv) Tenant shall fail to perform or observe some term or condition of this Lease which, because of its character, would immediately jeopardize Landlord's interest (such as, but without limitation, failure to maintain general liability insurance, or the employment of labor and contractors within the Premises which interfere with Landlord's work, in violation of Exhibit B-1), and such failure continues for three (3) business days after notice from Landlord to Tenant thereof; or

(v) Tenant shall neglect or fail to perform or observe any other covenant herein contained on Tenant's part to be performed or observed and Tenant shall fail to remedy the same within thirty (30) days after notice to Tenant specifying such neglect or failure, or if such failure is of such a nature that Tenant cannot reasonably remedy the same within such thirty (30) day period, Tenant shall fail to commence promptly to remedy the same and to prosecute such remedy to completion with diligence and continuity; or

(vi) Tenant's leasehold interest in the Premises shall be taken on execution or by other process of law directed against Tenant; or

(vii) Tenant shall make an assignment for the benefit of creditors or shall file a voluntary petition in bankruptcy or shall be adjudicated bankrupt or insolvent, or shall file any petition or answer seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief for itself under any present or future federal, state or other statute, law or regulation for the relief of debtors, or shall seek or consent to or acquiesce in the appointment of any trustee, receiver or liquidator of Tenant or of all or any substantial part of its properties, or shall admit in writing its inability to pay its debts generally as they become due; or

(viii) A petition shall be filed against Tenant in bankruptcy or under any other law seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar relief under any present or future Federal, State or other statute, law or regulation and shall remain undismissed or unstayed for an aggregate of sixty (60) days (whether or not consecutive), or if any debtor in possession (whether or not Tenant) trustee, receiver or liquidator of Tenant or of all or any substantial part of its properties or of the Premises shall be appointed without the consent or acquiescence of Tenant and such appointment shall remain unvacated or unstayed for an aggregate of sixty (60) days (whether or not consecutive) then, and in any of said cases (notwithstanding any license of a former breach of covenant or waiver of the benefit hereof or consent in a former instance).

Landlord lawfully may, immediately or at any time thereafter, and without demand or further notice terminate this Lease by notice to Tenant, specifying a date not less than ten (10) days after the giving of such notice on which this Lease shall terminate, and this Lease shall come to an end on the date specified therein as fully and completely as if such date were the date herein originally fixed for the expiration of the Lease Term (Tenant hereby waiving any rights of redemption), and Tenant will then quit and surrender the Premises to Landlord, but Tenant shall remain liable as hereinafter provided.

(b) If this Lease shall have been terminated as provided in this Article, then Landlord may, without notice, re- enter the Premises, either by force, summary proceedings, ejectment or otherwise, and remove and dispossess Tenant and all other persons and any and all property from the same, as if this Lease had not been made, and Tenant hereby waives the service of notice of intention to re-enter or to institute legal proceedings to that end.

(c) In the event that this Lease is terminated under any of the provisions contained in Section 7.1 (a) or shall be otherwise terminated by breach of any obligation of Tenant, Tenant covenants and agrees forthwith to pay and be liable for, on the days originally fixed herein for the payment thereof, amounts equal to the several installments of rent and other charges reserved as they would, under the terms of this Lease, become due if this Lease had not been terminated or if Landlord had not entered or re-entered, as aforesaid, and whether the Premises be relet or remain vacant, in whole or in part, or for a period less than the remainder of the Term, and for the whole thereof, but in the event the Premises be relet by Landlord, Tenant shall be entitled to a credit in the net amount of rent and other charges received by Landlord in reletting, after deduction of all reasonable out-of-pocket expenses incurred in reletting the Premises (including, without limitation, remodeling costs, brokerage fees and the like), and in collecting the rent in connection therewith, in the following manner:

Amounts received by Landlord after reletting shall first be applied against such Landlord's reasonable out-of-pocket expenses, until the same are recovered, and until such recovery, Tenant shall pay, as of each day when a payment would fall due under this Lease, the amount which Tenant is obligated to pay under the terms of this Lease (Tenant's liability prior to any such reletting and such recovery not in any way to be diminished as a result of the fact that such reletting might be for a rent higher than the rent provided for in this Lease); when and if such expenses have been completely recovered, the amounts received from reletting by Landlord as have not previously been applied shall be credited against Tenant's obligations as of each day when a payment would fall due under this Lease, and only the net amount thereof shall be payable by Tenant. Further, amounts received by Landlord from such reletting for any period shall be credited only against obligations of Tenant allocable to such period, and shall not be credited against obligations of Tenant hereunder accruing subsequent or prior to such period; nor shall any credit of any kind be due for any period after the date when the term of this Lease is scheduled to expire according to its terms.

Landlord agrees to use commercially reasonable efforts to mitigate Landlord's damages following an Event of Default, including the use of commercially reasonable efforts to relet the Premises after Tenant vacates the same in the event this Lease is terminated based upon an Event of Default by Tenant hereunder. The marketing of the Premises in a manner similar to the manner in which Landlord markets other premises in buildings owned by Landlord or its affiliates in the Boston West Suburban market shall be deemed to have satisfied Landlord's obligation to use "reasonable efforts" hereunder. In no event shall Landlord be required to (i) solicit or entertain negotiations with any other prospective tenant for the Premises until Landlord obtains full and complete possession of the Premises (including, without limitation, the final and unappealable legal right to relet the Premises free of any claim of Tenant), (ii) relet the Premises before leasing other comparable space in buildings owned by Landlord or its affiliates in the vicinity of the Building, or (iii) lease the Premises for a rental less than the current fair market rent then prevailing for similar office and laboratory space in buildings owned by Landlord or its affiliates in the vicinity of the Building.

(d) (i) In the alternative, Landlord may elect, by notice given to Tenant at any time after such termination and whether or not Landlord shall have collected any damages under subsection (c) above, but as liquidated final damages and in lieu of all other damages beyond the date of such notice, to require Tenant to pay such a sum as at the time of the giving of such notice represents the amount of the excess, if any, of (a) the discounted present value, at a discount rate of 6%, of the total rent and other charges which would have been payable by Tenant under this Lease from the date of such notice for what would be the then unexpired Lease Term if the Lease terms had been fully complied with by Tenant over and above, (b) the discounted present value, at a discount rate of 6%, of the total rent and other charges that would be received by Landlord if the Premises were released at the time of such notice for the remainder of the Lease Term at the fair market value (including provisions regarding periodic increases in rent if such are applicable) prevailing at the time of such notice as reasonably determined by Landlord, plus all expenses which Landlord may have incurred with respect to the collection of such damages.

(ii) For the purposes of this Article, if Landlord elects to require Tenant to pay damages in accordance with the immediately preceding paragraph, the total rent shall be computed by assuming that Landlord's Operating Expenses, and Landlord's Tax Expenses would be, for the balance of the unexpired Term from the date of such notice, the amount thereof (if any) for the immediately preceding annual period payable by Tenant to Landlord.

(e) In case of any Event of Default, re-entry, dispossession by summary proceedings or otherwise, Landlord may (i) re-let the Premises or any part or parts thereof, either in the name of Landlord or otherwise, for a term or terms which may at Landlord's option be equal to or less than or exceed the period which would otherwise have constituted the balance of the Term of this Lease and may grant concessions or free rent to the extent that Landlord considers advisable or necessary to re-let the same and (ii) may make such alterations, repairs and decorations in the Premises as Landlord in its reasonable judgment considers advisable or necessary for the purpose of reletting the Premises; and the making of such alterations, repairs and decorations shall not operate or be construed to release Tenant from liability hereunder as aforesaid. Landlord shall in no event be liable in any way whatsoever for failure to re-let the Premises, or, in the event that the Premises are re-let, for failure to collect the rent under reletting provided Landlord uses commercially reasonable efforts in connection with same as provided in subsection (c) above. Tenant hereby expressly waives any and all rights of redemption granted by or under any present or future laws in the event of Tenant being evicted or dispossessed, or in the event of Landlord obtaining possession of the Premises, by reason of the violation by Tenant of any of the covenants and conditions of this Lease.

(f) The specified remedies to which Landlord may resort hereunder are not intended to be exclusive of any remedies or means of redress to which Landlord may at any time be entitled lawfully, and Landlord may invoke any remedy (including the remedy of specific performance) allowed at law or in equity as if specific remedies were not herein provided for. Further, nothing contained in this Lease shall limit or prejudice the right of Landlord to prove for and obtain in proceedings for bankruptcy or insolvency by reason of the termination of this Lease, an amount equal to the maximum allowed by any statute or rule of law in effect at the time when, and governing the proceedings in which, the damages are to be proved, whether or not the amount be greater, equal to, or less than the amount of the loss or damages referred to above.

(g) In lieu of any other damages or indemnity and in lieu of the recovery by Landlord of all sums payable under all the foregoing provisions of this Section 7.1, Landlord may elect to collect from Tenant, by notice to Tenant given to Tenant at the time of termination, and Tenant shall thereupon pay, as liquidated damages, an amount equal to the sum of the Annual Fixed Rent and all Additional Rent payable for the twelve (12) months ended next prior to such termination plus the amount of Annual Fixed Rent and Additional Rent of any kind accrued and unpaid at the time of such termination plus any and all reasonable out-of-pocket expenses which the Landlord may have incurred for and with respect of the collection of any of such rent.

7.2 Landlord's Default

Landlord shall never be liable for any failure to make repairs which, under the provisions of this Lease, Landlord has undertaken to make unless:

(a) Tenant has given notice to Landlord of the need to make such repairs, or of a condition in the Building or in the Premises requiring any repair for which Landlord is responsible; and

(b) Landlord has failed to commence to make such repairs within a reasonable time after receipt of such notice.

In the event Landlord fails to make such repairs as are required of Landlord within thirty (30) days after written notice from Tenant to Landlord and to the holder of any mortgage on the Premises of which Landlord has given Tenant notice or of which Tenant has actual notice, specifying the nature of such repairs (or if such repairs are of the type which cannot be completed within thirty (30) days, then if Landlord or the holder of any such mortgage (at the option of such mortgagee) fails to (i) commence making such repairs within thirty (30) days after such written notice from Tenant and (ii) thereafter prosecute such repairs to completion with due diligence given the nature of such repairs), then thereafter at any time prior to Landlord's or such mortgagee's commencing such repairs or subsequent to Landlord or such mortgagee commencing such repairs if Landlord or such mortgagee has not prosecuted such repairs to completion with due diligence given the nature of such repairs, Tenant may, but need not, make such repairs and charge the reasonable cost thereof to Landlord, and Landlord shall reimburse Tenant for such reasonable costs within thirty (30) days of receipt of a reasonably detailed invoice for the same; provided, however, that in the case of emergency repairs (i) such notice by Tenant to Landlord and such mortgagee need not be in writing, and (ii) Tenant may make such emergency repairs and charge the reasonable cost thereof to Landlord if either Landlord or such mortgagee has not made such emergency repairs within a reasonable time after such notice. However, in no event shall Tenant have the right to offset against, withhold or deduct from Annual Fixed Rent or additional rent payable under this Lease for any reason relating to this Section.

ARTICLE VIII

Insurance and Indemnity

8.1 Tenant's Indemnity

(a) Indemnity. To the fullest extent permitted by law, Tenant waives any right to contribution against the Landlord Parties (as hereinafter defined) and agrees to indemnify and save harmless the Landlord Parties from and against all claims by a third party of whatever nature to the extent arising from or claimed to have arisen from (i) any act, omission or negligence of the Tenant Parties (as hereinafter defined); (ii) any accident, injury or damage whatsoever caused to any person, or to the property of any person, occurring in or about the Premises from the earlier of (A) the date on which any Tenant Party first enters the Premises for any reason or (B) the Commencement Date, and thereafter throughout and until the end of the Lease Term, and after the end of the Lease Term for so long after the end of the Lease Term as any of Tenant's Property (as defined in Section 8.4) remains on the Premises, or Tenant or anyone acting by, through or under Tenant may use, be in occupancy of any part of, or have access to the Premises or any portion thereof; (iii) any accident, injury or damage whatsoever occurring outside the Premises but within the Building, or on common areas or the Complex, where such accident, injury or damage results, or is claimed to have resulted, from any act, omission or negligence on the part of any of the Tenant Parties; or (iv) any breach of this Lease by Tenant. Tenant shall pay such indemnified amounts as they are incurred by the Landlord Parties. This indemnification shall not be construed to deny or reduce any other rights or obligations of indemnity that any of the Landlord Parties may have under this Lease or the common law. Notwithstanding anything contained herein to the contrary, in no event shall Tenant be obligated to indemnify Landlord for any claims, costs, fees, disbursements, damages or otherwise arising to the extent of Landlord's or any of Landlord's Parties' negligence or willful misconduct.

(b) No limitation. The indemnification obligations under this Section 8.1 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Tenant or any subtenant or other occupant of the Premises under workers' compensation acts, disability benefit acts, or other employee benefit acts.

(c) Subtenants and other occupants. Tenant shall require its subtenants and other occupants of the Premises to provide similar indemnities to the Landlord Parties in a form acceptable to Landlord.

(d) Survival. The terms of this Section 8.1 shall survive any termination or expiration of this Lease.

(e) Costs. The foregoing indemnity and hold harmless agreement shall include indemnity for all reasonable, out-of-pocket costs, expenses and liabilities (including, without limitation, reasonable out-of-pocket attorneys' fees and disbursements) incurred by the Landlord Parties in connection with any such claim or any action or proceeding brought thereon, and the defense thereof. In addition, in the event that any action or proceeding shall be brought against one or more Landlord Parties by reason of any such claim, Tenant, upon request from the Landlord Party, shall resist and defend such action or proceeding on behalf of the Landlord Party by counsel appointed by Tenant's insurer (if such claim is covered by insurance without reservation) or otherwise by counsel reasonably satisfactory to the Landlord Party. The Landlord Parties shall not be bound by any compromise or settlement of any such claim, action or proceeding without the prior written consent of such Landlord Parties, which shall not be unreasonably withheld, conditioned or delayed.

(f) Landlord Parties and Tenant Parties. The term "Landlord Party" or "Landlord Parties" shall mean Landlord, any affiliate of Landlord, Landlord's managing agents for the Building, each mortgagee (if any), each ground lessor (if any), and each of their respective direct or indirect partners, officers, shareholders, directors, members, trustees, beneficiaries, servants, employees, principals, contractors, licensees, agents or representatives. For the purposes of this Lease, the term "Tenant Party" or "Tenant Parties" shall mean Tenant, any affiliate of Tenant, any permitted subtenant or any other permitted occupant of the Premises, and each of their respective direct or indirect partners, officers, shareholders, directors, members, trustees, beneficiaries, servants, employees, principals, contractors, licensees, agents, invitees or representatives.

8.1.1 Landlord's Indemnity. Subject to the limitations in Section 9.3 and in Section 8.2 and Section 8.13 of this Article, and to the extent not resulting from any act, omission, fault, negligence or misconduct of Tenant or its contractors, licensees, invitees, agents, servants or employees, Landlord agrees to indemnify and save harmless Tenant from and against any claim by a third party arising from any injury to any person occurring in the Premises or in the Complex after the date that possession of the Premises is first delivered to Tenant and until the expiration or earlier termination of the Lease Term, to the extent such injury results from the gross negligence or willful misconduct of Landlord or Landlord's employees, or from any breach or default by Landlord in the performance or observance of its covenants or obligations under this Lease; provided, however, that in no event shall the aforesaid indemnity render Landlord responsible or liable for any loss or damage to fixtures, personal property or other property of Tenant, and Landlord shall in no event be liable for any indirect or consequential damages. Tenant shall provide notice of any such third party claim to Landlord as soon as practicable. Landlord shall have the right, but not the duty, to defend the claim. The provisions of this Section shall not be applicable to (i) the holder of any mortgage now or hereafter on the Complex or Building (whether or not such holder shall be a mortgagee in possession of or shall have exercised any rights under a conditional, collateral or other assignment of leases and/or rents respecting the Complex or Building), or (ii) any person acquiring title as a result of, or subsequent to, a foreclosure of any such mortgage or a deed in lieu of foreclosure, except to the extent of liability insurance maintained by either of the foregoing.

8.2 Tenant's Risk

Tenant agrees to use and occupy the Premises, and to use such other portions of the Complex as Tenant is given the right to use by this Lease at Tenant's own risk. Except as expressly set forth otherwise to the contrary in this Lease, the Landlord Parties shall not be liable to the Tenant Parties for any damage, injury, loss, compensation, or claim (including, but not limited to, claims for the interruption of or loss to a Tenant Party's business) based on, arising out of or resulting from any cause whatsoever, including, but not limited to, repairs to any portion of the Premises or the Building or the Complex, any fire, robbery, theft, mysterious disappearance, or any other crime or casualty, the actions of any other person or persons, or any leakage in any part or portion of the Premises or the Building or the Complex, or from water, rain or snow that may leak into, or flow from any part of the Premises or the Building or the Complex, or from drains, pipes or plumbing fixtures in the Building or the Complex. Any goods, property or personal effects stored or placed in or about the Premises shall be at the sole risk of the Tenant Party, and neither the Landlord Parties nor their insurers shall in any manner be held responsible therefor. The Landlord Parties shall not be responsible or liable to a Tenant Party, or to those claiming by, through or under a Tenant Party, for any loss or damage that may be occasioned by or through the acts or omissions of persons occupying adjoining premises or any part of the premises adjacent to or connecting with the Premises or any part of the Building or otherwise. Notwithstanding the foregoing, the Landlord Parties shall not be released from liability for any injury, loss, damages or liability to the extent arising from any negligence or willful misconduct of the Landlord Parties on or about the Premises; provided, however, in no event shall the Landlord Parties have any liability to a Tenant Party based on any loss with respect to or interruption in the operation of Tenant's business. The provisions of this section shall be applicable to the fullest extent permitted by law, and until the expiration or earlier termination of the Lease Term, and during such further period as any of Tenant's Property remains on the Premises, or Tenant or anyone acting by, through or under Tenant may use, be in occupancy of any part of, or have access to the Premises or of the Building.

8.3 Tenant's Commercial General Liability Insurance

Tenant agrees to maintain in full force on or before the earlier of (i) the date on which any Tenant Party first enters the Premises for any reason or (ii) the Commencement Date, and thereafter throughout and until the end of the Lease Term, and after the end of the Lease Term for so long as any of Tenant's Property remains on the Premises, or Tenant or anyone acting by, through or under Tenant may use, be in occupancy of any part of, or have access to the Premises or any portion thereof, a policy of commercial general liability insurance, on an occurrence basis, issued on a form at least as broad as Insurance Services Office ("ISO") Commercial General Liability Coverage "occurrence" form CG 00 01 10 01 or another Commercial General Liability "occurrence" form providing equivalent coverage. Such insurance shall include contractual liability coverage, specifically covering but not limited to the indemnification obligations undertaken by Tenant in this Lease. The minimum limits of liability of such insurance shall be $5,000,000 per occurrence, which may be satisfied through a combination of primary and excess/umbrella insurance. In addition, in the event Tenant hosts a function in the Premises, in the Building or on the Complex, Tenant agrees to obtain, and cause any persons or parties providing services for such function to obtain, the appropriate insurance coverages as determined by Landlord (including liquor liability coverage, if applicable) and provide Landlord with evidence of the same.

8.4 Tenant's Property Insurance

Tenant shall maintain at all times during the Term of this Lease, and during such earlier or later time as Tenant may be performing work in or to the Premises or have property, fixtures, furniture, equipment, machinery, goods, supplies, wares or merchandise on the Premises, and continuing thereafter so long as any of Tenant's Property, remains on the Premises, or Tenant or anyone acting by, through or under Tenant may use, be in occupancy of or have access to, any part of the Premises, business interruption insurance and insurance against loss or damage covered by the so-called "all risk" type insurance coverage with respect to (i) Tenant's property, fixtures, furniture, equipment, machinery, goods, supplies, wares and merchandise, and other property of Tenant located at the Premises, (ii) all additions, alterations and improvements made by or on behalf of the Tenant in the Premises (except to the extent paid for by Landlord in connection with this Lease) or existing in the Premises as of the date of this Lease, and (iii) any property of third parties, including but not limited to leased or rented property, in the Premises in Tenant's care, custody, use or control, provided that such insurance in the case of (iii) may be maintained by such third parties, (collectively "Tenant's Property"). The business interruption insurance required by this section shall be in minimum amounts typically carried by prudent tenants engaged in similar operations, but in no event shall be in an amount less than the Annual Fixed Rent then in effect during any year during the Term, plus any Additional Rent due and payable for the immediately preceding year during the Term. The "all risk" insurance required by this section shall be in an amount at least equal to the full replacement cost of Tenant's Property. In addition, during such time as Tenant is performing work in or to the Premises, Tenant, at Tenant's expense, shall also maintain, or shall cause its contractor(s) to maintain, builder's risk insurance for the full insurable value of such work. Landlord and such additional persons or entities as Landlord may reasonably request shall be named as loss payees, as their interests may appear, on the policy or policies required by this Lease, except for insurance maintained by third parties as provided in (iii) above. In the event of loss or damage covered by the "all risk" insurance required by this Lease, the responsibilities for repairing or restoring the loss or damage shall be determined in accordance with Article VI. To the extent that Landlord is obligated to pay for the repair or restoration of the loss or damage covered by the policy, Landlord shall be paid the proceeds of the "all risk" insurance covering the loss or damage. To the extent Tenant is obligated to pay for the repair or restoration of the loss or damage, covered by the policy, Tenant shall be paid the proceeds of the "all risk" insurance covering the loss or damage. If both Landlord and Tenant are obligated to pay for the repair or restoration of the loss or damage covered by the policy, the insurance proceeds shall be paid to each of them in the pro rata proportion of their obligations to repair or restore the loss or damage. If the loss or damage is not repaired or restored (for example, if the Lease is terminated pursuant to Article VI), the insurance proceeds shall be paid to Landlord and Tenant in the pro rata proportion of their relative contributions to the cost of the leasehold improvements covered by the policy.

8.5 Tenant's Other Insurance

Tenant agrees to maintain in full force on or before the earlier of (i) the date on which any Tenant Party first enters the Premises for any reason or (ii) the Commencement Date, and thereafter throughout the end of the Term, and after the end of the Term for so long after the end of the Term any of Tenant's Property remains on the Premises or as Tenant or anyone acting by, through or under Tenant may use, be in occupancy of, or have access to the Premises or any portion thereof, (1) comprehensive automobile liability insurance (covering any automobiles owned or operated by Tenant at the Site) issued on a form at least as broad as ISO Business Auto Coverage form CA 00 01 07 97 or other form providing equivalent coverage; (2) worker's compensation insurance or participation in a monopolistic state workers' compensation fund; and (3) employer's liability insurance or (in a monopolistic state) Stop Gap Liability insurance. Such automobile liability insurance shall be in an amount not less than One Million Dollars ($1,000,000) for each accident. Such worker's compensation insurance shall carry minimum limits as defined by the law of the jurisdiction in which the Premises are located (as the same may be amended from time to time). Such employer's liability insurance shall be in an amount not less than One Million Dollars ($1,000,000) for each accident, One Million Dollars ($1,000,000) disease-policy limit, and One Million Dollars ($1,000,000) disease-each employee.

8.6 Requirements for Tenant's Insurance

All insurance required to be maintained by Tenant pursuant to this Lease shall be maintained with responsible companies that are admitted to do business, and are in good standing in the Commonwealth of Massachusetts and that have a rating of at least "A" and are within a financial size category of not less than "Class X" in the most current Best's Key Rating Guide or such similar rating as may be reasonably selected by Landlord. All such insurance shall: (1) be acceptable in form and content to Landlord; (2) be primary and noncontributory (including all primary and excess/umbrella policies); and (3) contain an endorsement prohibiting cancellation, failure to renew, reduction of amount of insurance, or change in coverage without the insurer first giving Landlord thirty (30) days' prior written notice (by certified or registered mail, return receipt requested, or by fax or email) of such proposed action. No such policy shall contain any self-insured retention greater than $100,000 for property insurance and $25,000 for commercial general liability insurance. Any deductibles and such self-insured retentions shall be deemed to be "insurance" for purposes of the waiver in Section 8.13 below. Landlord reserves the right from time to time to require Tenant to obtain higher minimum amounts of insurance based on such limits as are customarily carried with respect to similar properties in the area in which the Premises are located. The minimum amounts of insurance required by this Lease shall not be reduced by the payment of claims or for any other reason. In the event Tenant shall fail to obtain or maintain any insurance meeting the requirements of this Article, or to deliver such policies or certificates as required by this Article, Landlord may, at its option, on five (5) days' notice to Tenant, procure such policies for the account of Tenant, and the cost thereof shall be paid to Landlord within five (5) days after delivery to Tenant of bills therefor.

8.7 Additional Insureds

To the fullest extent permitted by law, the commercial general liability and auto insurance carried by Tenant pursuant to this Lease, and any additional liability insurance carried by Tenant pursuant to Section 8.5 of this Lease or any other provision of this Lease, shall name Landlord, Landlord's managing agent, and such other persons as Landlord may reasonably request from time to time as additional insureds with respect to liability arising out of or related to this Lease or the operations of Tenant (collectively "Additional Insureds"). Such insurance shall provide primary coverage without contribution from any other insurance carried by or for the benefit of Landlord, Landlord's managing agent, or other Additional Insureds. Such insurance shall also waive any right of subrogation against each Additional Insured. For the avoidance of doubt, each primary policy and each excess/umbrella policy through which Tenant satisfies its obligations under this Section 8.7 must provide coverage to the Additional Insureds that is primary and non-contributory.

8.8 Certificates of Insurance

On or before the earlier of (i) the date on which any Tenant Party first enters the Premises for any reason or (ii) the Commencement Date, Tenant shall furnish Landlord with certificates evidencing the insurance coverage required by this Lease, and renewal certificates shall be furnished to Landlord at least annually thereafter, and at least thirty (30) days prior to the expiration date of each policy for which a certificate was furnished (acceptable forms of such certificates for liability and property insurance, respectively, as of the date hereof, are attached as Exhibit H, however, other forms of certificates may satisfy the requirements of this Section 8.8) . In jurisdictions requiring mandatory participation in a monopolistic state workers' compensation fund, the insurance certificate requirements for the coverage required for workers' compensation will be satisfied by a letter from the appropriate state agency confirming participation in accordance with statutory requirements. Such current participation letters required by this Section 8.8 shall be provided every six (6) months for the duration of this Lease. Failure by the Tenant to provide the certificates or letters required by this Section 8.8 shall not be deemed to be a waiver of the requirements in this Section 8.8. Upon request by Landlord, a true and complete copy of any insurance policy required by this Lease shall be delivered to Landlord within ten (10) days following Landlord's request.

8.9 Subtenants and Other Occupants

Tenant shall require its subtenants and other occupants of the Premises to provide written documentation evidencing the obligation of such subtenant or other occupant to indemnify the Landlord Parties to the same extent that Tenant is required to indemnify the Landlord Parties pursuant to Section 8.1 above, and to maintain insurance that meets the requirements of this Article, and otherwise to comply with the requirements of this Article, provided that the terms of this Section 8.9 shall not relieve Tenant of any of its obligations to comply with the requirements of this Article. Tenant shall require all such subtenants and occupants to supply certificates of insurance evidencing that the insurance requirements of this Article have been met and shall forward such certificates to Landlord on or before the earlier of (i) the date on which the subtenant or other occupant or any of their respective direct or indirect partners, officers, shareholders, directors, members, trustees, beneficiaries, servants, employees, principals, contractors, licensees, agents, invitees or representatives first enters the Premises or (ii) the commencement of the sublease. Tenant shall be responsible for identifying and remedying any deficiencies in such certificates or policy provisions.

8.10 No Violation of Building Policies

Tenant shall not commit or permit any violation of the policies of fire, boiler, sprinkler, water damage or other insurance covering the Complex and/or the fixtures, equipment and property therein carried by Landlord, or do or permit anything to be done, or keep or permit anything to be kept, in the Premises, which in case of any of the foregoing (i) would result in termination of any such policies, (ii) would adversely affect Landlord's right of recovery under any of such policies, or (iii) would result in reputable and independent insurance companies refusing to insure the Complex or the property of Landlord in amounts reasonably satisfactory to Landlord. Landlord hereby confirms that Tenant's use of the Premises for the Permitted Uses does not violate any insurance coverage carried by Landlord.

8.11 Tenant to Pay Premium Increases

If, to the extent because of anything done, caused or permitted to be done, or omitted by Tenant (or its subtenant or other occupants of the Premises), the rates for liability, fire, boiler, sprinkler, water damage or other insurance on the Complex and equipment of Landlord or any other tenant or subtenant in the Building shall be higher than they otherwise would be, Tenant shall reimburse Landlord for the additional insurance premiums thereafter paid by Landlord which shall have been charged because of the aforesaid reasons, such reimbursement to be made from time to time within thirty (30) days after Landlord's demand.

8.12 Landlord's Insurance

(a) Required insurance. Landlord shall maintain insurance against loss or damage with respect to the Building on an "all risk" type insurance form, with customary exceptions, subject to such deductibles and self-insured retentions as Landlord may determine, in an amount equal to at least the replacement value of the Building. Landlord shall also maintain such insurance with respect to any improvements, alterations, and fixtures of Tenant located at the Premises to the extent paid for by Landlord. Landlord shall also maintain loss of rents insurance insuring against the loss of monthly installments of Fixed Rent and the Additional Rent due under Sections 2.6 and 2.7 of this Lease for twelve (12) months in the case of both such Fixed Rent and Additional Rent. The cost of such insurance shall be treated as a part of Landlord's Operating Expenses. Such insurance shall be maintained with an insurance company selected by Landlord. Payment for losses thereunder shall be made solely to Landlord.

(b) Optional insurance. Landlord may maintain such additional insurance with respect to the Building and the Complex, including, without limitation, earthquake insurance, terrorism insurance, flood insurance, and/or liability insurance, as Landlord may in its sole discretion elect. Landlord may also maintain such other insurance as may from time to time be required by the holder of any mortgage on the Building or Complex. The reasonable out of pocket cost of all such additional insurance shall also be part of the Landlord's Operating Expenses.

(c) Blanket and self-insurance. Any or all of Landlord's insurance may be provided by blanket coverage maintained by Landlord or any affiliate of Landlord under its insurance program for its portfolio of properties, or by Landlord or any affiliate of Landlord under a program of self-insurance, and in such event Landlord's Operating Expenses shall include the portion of the commercially reasonable cost of blanket insurance or self-insurance that is allocated to the Building.

(d) No obligation. Landlord shall not be obligated to insure, and shall not assume any liability of risk of loss for, Tenant's Property, including any such property or work of Tenant's subtenants or occupants. Landlord will also have no obligation to carry insurance against, nor be responsible for, any loss suffered by Tenant, subtenants or other occupants due to interruption of Tenant's or any subtenant's or occupant's business.

8.13 Waiver of Subrogation

To the fullest extent permitted by law, the parties hereto waive and release any and all rights of recovery against the other, and agree not to seek to recover from the other or to make any claim against the other, and in the case of Landlord, against all Tenant Parties, and in the case of Tenant, against all Landlord Parties, for any loss or damage incurred by the waiving/releasing party to the extent such loss or damage is insured under any insurance policy required by this Lease or which would have been so insured had the party carried the insurance it was required to carry hereunder. Tenant shall obtain from its subtenants and other occupants of the Premises a similar waiver and release of claims against any or all of Tenant or Landlord. In addition, the parties hereto (and in the case of Tenant, its subtenants and other occupants of the Premises) shall procure an appropriate clause in, or endorsement on, any insurance policy required by this Lease pursuant to which the insurance company waives subrogation. The insurance policies required by this Lease shall contain no provision that would invalidate or restrict the parties' waiver and release of the rights of recovery in this section. The parties hereto covenant that no insurer shall hold any right of subrogation against the parties hereto by virtue of such insurance policy.

8.14 Tenant's Work

During such times as Tenant is performing work or having work or services performed in or to the Premises, Tenant shall require its contractors, and their subcontractors of all tiers, to obtain and maintain commercial general liability, automobile, workers compensation, employer's liability, builder's risk, and equipment/property insurance in such amounts and on such terms as are customarily required of such contractors and subcontractors on similar projects. The amounts and terms of all such insurance are subject to Landlord's written approval, which approval shall not be unreasonably withheld, conditioned or delayed. The commercial general liability and auto insurance carried by Tenant's contractors and their subcontractors of all tiers pursuant to this Section 8.14 shall name the Additional Insureds as additional insureds with respect to liability arising out of or related to their work or services. Such insurance shall provide primary coverage without contribution from any other insurance carried by or for the benefit of Landlord, Landlord's managing agent, or other Additional Insureds. Such insurance shall also waive any right of subrogation against each Additional Insured. Tenant shall obtain and submit to Landlord, prior to the earlier of (i) the entry onto the Premises by such contractors or subcontractors or (ii) commencement of the work or services, certificates of insurance evidencing compliance with the requirements of this Section 8.14.

ARTICLE IX

Miscellaneous Provisions

9.1 Waiver

No waiver by Landlord of any condition of this Lease, nor any failure by Tenant to deliver any security deposit, letter of credit, pre-paid rent, financial information, guaranty or other item required upon the execution and delivery of this Lease, shall be construed as excusing satisfaction of any such condition or the delivery of any such item by Tenant, and Landlord reserves the right to declare the failure of Tenant to satisfy any such condition or deliver any such item an Event of Default under this Lease. Further, no waiver at any time of any of the provisions hereof by Landlord or Tenant shall be construed as a waiver of any of the other provisions hereof, and a waiver at any time of any of the provisions hereof shall not be construed as a waiver at any subsequent time of the same provisions. The consent or approval of Landlord or Tenant to or of any action by the other requiring such consent or approval shall not be construed to waive or render unnecessary Landlord's or Tenant's consent or approval to or of subsequent similar act by the other.

No payment by Tenant, or acceptance by Landlord, of a lesser amount than shall be due from Tenant to Landlord shall be treated otherwise than as a payment on account. The acceptance by Landlord of a check for a lesser amount with an endorsement or statement thereon, or upon any letter accompanying such check, that such lesser amount is payment in full, shall be given no effect, and Landlord may accept such check without prejudice to any other rights or remedies which Landlord may have against Tenant.

In connection with any financing to be secured by Tenant's personal property, trade fixtures, inventory or stock-in-trade located on the Premises, Landlord agrees to execute and deliver, within fifteen (15) days of Tenant's written request therefor, a waiver and subordination of lien for the benefit of the holder of such indebtedness either in Landlord standard form with such commercially reasonable revisions as such holder may request.

9.2 Cumulative Remedies

Except as expressly provided in this Lease, the specific remedies to which Landlord or Tenant may resort under the terms of this Lease are cumulative and are not intended to be exclusive of any other remedies or means of redress to which such party may be lawfully entitled in case of any breach or threatened breach by the other party hereto of any provisions of this Lease. In addition to the other remedies provided in this Lease, the parties shall be entitled to the restraint by injunction of the violation or attempted or threatened violation of any of the covenants, conditions or provisions of this Lease or to a decree compelling specific performance of any such covenants, conditions or provisions.

9.3 Quiet Enjoyment

This Lease is subject and subordinate to all matters of record. Tenant, subject to the terms and provisions of this Lease on payment of the rent and observing, keeping and performing all of the terms and provisions of this Lease on Tenant's part to be observed, kept and performed, shall lawfully, peaceably and quietly have, hold, occupy and enjoy the Premises during the Term (exclusive of any period during which Tenant is holding over after the termination or expiration of this Lease without the consent of Landlord), without hindrance or ejection by any persons lawfully claiming under Landlord to have title to the Premises superior to Tenant, subject, however, to the terms of this Lease; the foregoing covenant of quiet enjoyment is in lieu of any other covenant, express or implied; and it is understood and agreed that this covenant and any and all other covenants of Landlord contained in this Lease shall be binding upon Landlord and Landlord's successors, including ground or master lessees, only with respect to breaches occurring during Landlord's or Landlord's successors' respective ownership of Landlord's interest hereunder, as the case may be.

Further, Tenant specifically agrees to look solely to Landlord's then equity interest in the Building at the time owned, or in which Landlord holds an interest as ground lessee, together with income and proceeds therefrom, for recovery of any judgment from Landlord; it being specifically agreed that neither Landlord (original or successor), nor any beneficiary of any trust of which any person holding Landlord's interest is trustee, nor any member, manager, partner, director or stockholder, nor Landlord's managing agent, shall ever be personally liable for any such judgment, or for the payment of any monetary obligation to Tenant. The provision contained in the foregoing sentence is not intended to, and shall not, limit any right that Tenant might otherwise have to obtain injunctive relief against Landlord or Landlord's successors in interest, or any action not involving the personal liability of Landlord (original or successor), any successor trustee to the persons named herein as Landlord, or any beneficiary of any trust of which any person holding Landlord's interest is trustee, or of any manager, member, partner, director or stockholder of Landlord or of Landlord's managing agent to respond in monetary damages from Landlord's assets other than Landlord's equity interest aforesaid in the Building, but in no event shall Tenant have the right to terminate or cancel this Lease or to withhold rent or to set-off any claim or damages against rent as a result of any default by Landlord or breach by Landlord of its covenants or any warranties or promises hereunder, except in the case of a wrongful eviction of Tenant from the demised premises (constructive or actual) by Landlord continuing after notice to Landlord thereof and a reasonable opportunity for Landlord to cure the same. In no event shall Landlord or Tenant ever be liable to the other party for any indirect or consequential damages suffered from whatever cause; provided that the foregoing shall not limit or alter any procedural right or remedy of Landlord under this Lease nor shall the same apply to the obligations of Tenant with respect to any hold over by Tenant after the expiration or earlier termination of this Lease of the obligations under Section 5.3 with respect to Hazardous Materials. In the event that Landlord shall be determined to have acted unreasonably in withholding any consent or approval under this Lease, the sole recourse and remedy of Tenant in respect thereof shall be to specifically enforce Landlord's obligation to grant such consent or approval, and in no event shall the Landlord be responsible for any damages of whatever nature in respect of its failure to give such consent or approval nor shall the same otherwise affect the obligations of Tenant under this Lease or act as any termination of this Lease. No member, manager, partner, director, officers or stockholders of Tenant shall ever be personally liable under this Lease for any monetary obligation of Tenant.

9.4 Notice to Mortgagee and Ground Lessor

After receiving notice from any person, firm or other entity that it holds a mortgage which includes the Premises as part of the mortgaged premises, or that it is the ground lessor under a lease with Landlord, as ground lessee, which includes the Premises as a part of the demised premises, no notice from Tenant to Landlord shall be effective unless and until a copy of the same is given to such holder or ground lessor, and the curing of any of Landlord's defaults by such holder or ground lessor within a reasonable time thereafter (including a reasonable time to obtain possession of the premises if the mortgagee or ground lessor elects to do so) shall be treated as performance by Landlord. For the purposes of this Section 9.4 or Section 9.14, the term "mortgage" includes a mortgage on a leasehold interest of Landlord (but not one on Tenant's leasehold interest).

9.5 Assignment of Rents

With reference to any assignment by Landlord of Landlord's interest in this Lease, or the rents payable hereunder, conditional in nature or otherwise, which assignment is made to the holder of a mortgage or ground lease on property which includes the Premises, Tenant agrees:

(a) That the execution thereof by Landlord, and the acceptance thereof by the holder of such mortgage or the ground lessor, shall never be treated as an assumption by such holder or ground lessor of any of the obligations of Landlord hereunder, unless such holder, or ground lessor, shall, by notice sent to Tenant, or pursuant to an SNDA (as hereinafter defined), specifically otherwise elect; and

(b) That, except as aforesaid, such holder or ground lessor shall be treated as having assumed Landlord's obligations hereunder only upon foreclosure of such holder's mortgage and the taking of possession of the Premises, or, in the case of a ground lessor, the assumption of Landlord's position hereunder by such ground lessor.

In no event shall the acquisition of title to the Building and the land on which the same is located by a purchaser which, simultaneously therewith, leases the entire Building or such land back to the seller thereof be treated as an assumption by such purchaser-lessor, by operation of law or otherwise, of Landlord's obligations hereunder, but Tenant shall look solely to such seller-lessee, and its successors from time to time in title, for performance of Landlord's obligations hereunder subject to the provisions of Section 9.3 and any SNDA. In any such event, this Lease shall be subject and subordinate to the lease to such purchaser provided that such purchaser agrees to recognize the right of Tenant to use and occupy the Premises upon the payment of rent and other charges payable by Tenant under this Lease and the performance by Tenant of Tenant's obligations hereunder this Lease and provided that Tenant agrees to attorn to such purchaser. For all purposes, such seller-lessee, and its successors in title, shall be the landlord hereunder unless and until Landlord's position shall have been assumed by such purchaser-lessor.

9.6 Surrender

No act or thing done by Landlord during the Lease Term shall be deemed an acceptance of a surrender of the Premises, and no agreement to accept such surrender shall be valid, unless in writing signed by Landlord. No employee of Landlord or of Landlord's agents shall have any power to accept the keys of the Premises prior to the termination of this Lease. The delivery of keys to any employee of Landlord or of Landlord's agents shall not operate as a termination of the Lease or a surrender of the Premises.

9.7 Brokerage

(A) Tenant warrants and represents that Tenant has not dealt with any broker in connection with the consummation of this Lease other than the broker, person or firm, if any, designated in Section 1.1 hereof; and in the event any claim is made against the Landlord relative to dealings by Tenant with brokers, other than the broker, if any, designated in Section 1.1 hereof, Tenant shall defend the claim against Landlord with counsel of Tenant's selection first approved by Landlord (which approval will not be unreasonably withheld, conditioned or delayed) and save harmless and indemnify Landlord on account of loss, cost or damage which may arise to the extent of such claim.

(B) Landlord warrants and represents that Landlord has not dealt with any broker, in connection with the consummation of this Lease other than the broker, person or firm, if any, designated in Section 1.1 hereof; and in the event any claim is made against the Tenant relative to dealings by Landlord with brokers, other than the broker, if any, designated in Section 1.1 hereof, Landlord shall defend the claim against Tenant with counsel of Landlord's selection first approved by Tenant (which approval will not be unreasonably withheld) and save harmless and indemnify Tenant on account of loss, cost or damage which may arise by reason of such claim. Landlord agrees that it shall be solely responsible for the payment of brokerage commissions to the broker for the Original Term of this Lease, if any, designated in Section 1.1 hereof.

9.8 Invalidity of Particular Provisions

If any term or provision of this Lease, including but not limited to any waiver of contribution or claims, indemnity, obligation, or limitation of liability or of damages, or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Lease shall be valid and be enforced to the fullest extent permitted by law.

9.9 Provisions Binding, Etc.

The obligations of this Lease shall run with the land, and except as herein otherwise provided, the terms hereof shall be binding upon and shall inure to the benefit of the successors and assigns, respectively, of Landlord and Tenant and, if Tenant shall be an individual, upon and to his heirs, executors, administrators, successors and assigns. Each term and each provision of this Lease to be performed by Tenant shall be construed to be both a covenant and a condition. The reference contained to successors and assigns of Tenant is not intended to constitute a consent to subletting or assignment by Tenant.

9.10 Recording; Confidentiality

Tenant agrees not to record the within Lease, but each party hereto agrees, on the request of the other, to execute a so-called Notice of Lease or short form lease in form recordable and complying with applicable Legal Requirements and reasonably satisfactory to both Landlord's and Tenant's attorneys. In no event shall such document set forth rent or other charges payable by Tenant under this Lease; and any such document shall expressly state that it is executed pursuant to the provisions contained in this Lease, and is not intended to vary the terms and conditions of this Lease.

The parties agree that this Lease and the terms contained herein will be treated as strictly confidential and except as required by law (or except with the written consent of the parties) Parties shall not disclose the same to any third party except for the parties' partners, purchasers, brokers, lenders, accountants and attorneys, and other advisors, contractors and consultants who have a need to know the terms of this Lease, all of whom have been advised of the confidentiality provisions contained herein and agree to be bound by the same. In the event one party is required by law to provide this Lease or disclose any of its terms, the disclosing party shall give the other party prompt notice of such requirement prior to making disclosure so that the other party may seek an appropriate protective order. If failing the entry of a protective order the disclosing party is compelled to make disclosure, the disclosing party shall only disclose portions of the Lease which the disclosing party is required to disclose and will exercise reasonable efforts to obtain assurance that confidential treatment will be accorded to the information so disclosed.

9.11 Notices

Whenever, by the terms of this Lease, notice shall or may be given either to Landlord or to Tenant, such notice shall be in writing and shall be sent by overnight commercial courier or by registered or certified mail, postage or delivery charges prepaid, as the case may be:

If intended for Landlord, addressed to Landlord at the address set forth in Article I of this Lease (or to such other address or addresses as may from time to time hereafter be designated by Landlord by like notice) with a copy to Landlord, Attention: Regional General Counsel.

If intended for Tenant, addressed to Tenant at the addresses set forth in Article I of this Lease (or to such other address or addresses as may from time to time hereafter be designated by Tenant by like notice).

Except as otherwise provided herein, all such notices shall be effective when received; provided, that (i) if receipt is refused, notice shall be effective upon the first occasion that such receipt is refused, (ii) if the notice is unable to be delivered due to a change of address of which no notice was given, notice shall be effective upon the date such delivery was attempted, (iii) if the notice address is a post office box number, notice shall be effective the day after such notice is sent as provided hereinabove or (iv) if the notice is to a foreign address, notice shall be effective two (2) days after such notice is sent as provided hereinabove.

Where provision is made for the attention of an individual or department, the notice shall be effective only if the wrapper in which such notice is sent is addressed to the attention of such individual or department.

Any notice given by an attorney on behalf of Landlord or by Landlord's managing agent shall be considered as given by Landlord and shall be fully effective. Any notice given by an attorney on behalf of Tenant shall be considered as given by Tenant and shall be fully effective.

Time is of the essence with respect to any and all notices and periods for giving notice or taking any action thereto under this Lease.

9.12 When Lease Becomes Binding and Authority

Employees or agents of Landlord have no authority to make or agree to make a lease or any other agreement or undertaking in connection herewith. The submission of this document for examination and negotiation does not constitute an offer to lease, or a reservation of, or option for, the Premises, and this document shall become effective and binding only upon the execution and delivery hereof by both Landlord and Tenant. All negotiations, considerations, representations and understandings between Landlord and Tenant are incorporated herein and may be modified or altered only by written agreement between Landlord and Tenant, and no act or omission of any employee or agent of Landlord shall alter, change or modify any of the provisions hereof. Landlord and Tenant hereby represent and warrant to the other that all necessary action has been taken to enter this Lease and that the person signing this Lease on behalf of Landlord and Tenant has been duly authorized to do so.

9.13 Section Headings

The titles of the Articles throughout this Lease are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Lease.

9.14 Rights of Mortgagee

This Lease shall be subject and subordinate to any mortgage now or hereafter on the Site or the Building, or both, and to each advance made or hereafter to be made under any mortgage, and to all renewals, modifications, consolidations, replacements and extensions thereof and all substitutions therefor provided that the holder of such mortgage agrees to recognize the rights of Tenant under this Lease (including the right to use and occupy the Premises) upon the payment of rent and other charges payable by Tenant under this Lease and the performance by Tenant of Tenant's obligations hereunder pursuant to a commercially reasonable subordination, non-disturbance and attornment agreement ("SNDA"). In confirmation of such subordination and recognition, Tenant shall execute and deliver promptly such instruments of subordination and recognition as such mortgagee may reasonably request subject to receipt of such instruments of recognition from such mortgagee as Tenant may reasonably request (Tenant hereby agreeing to pay any legal or other fees charged by the mortgagee in connection with providing the same). In the event that any mortgagee or its respective successor in title shall succeed to the interest of Landlord, then, this Lease shall nevertheless continue in full force and effect and Tenant shall and does hereby agree to attorn to such mortgagee or successor and to recognize such mortgagee or successor as its landlord. If any holder of a mortgage which includes the Premises, executed and recorded prior to the date of this Lease, shall so elect, this Lease and the rights of Tenant hereunder, shall be superior in right to the rights of such holder, with the same force and effect as if this Lease had been executed, delivered and recorded, or a statutory notice hereof recorded, prior to the execution, delivery and recording of any such mortgage. The election of any such holder shall become effective upon either notice from such holder to Tenant in the same fashion as notices from Landlord to Tenant are to be given hereunder or by the recording in the appropriate registry or recorder's office of an instrument in which such holder subordinates its rights under such mortgage to this Lease.

Landlord hereby represents and warrants that there is no mortgage currently encumbering the Building and/or the Site as of the date of this Lease. As a condition to any subordination of this Lease to a mortgage hereunder granted on the Site or the Building, Landlord shall obtain an SNDA executed by the mortgagee in its standard form with such commercially reasonable changes thereto as Tenant may reasonably request.

If in connection with obtaining financing a bank, insurance company, pension trust or other institutional lender shall request reasonable modifications in this Lease as a condition to such financing, Tenant will not unreasonably withhold, delay or condition its consent thereto, provided that such modifications do not increase the monetary obligations of Tenant hereunder or materially adversely affect the leasehold interest hereby created.

9.15 Status Reports and Financial Statements

Recognizing that Landlord may find it necessary to establish to third parties, such as accountants, banks, potential or existing mortgagees, potential purchasers or the like, the then current status of performance hereunder, Tenant, on the request of Landlord made from time to time, will furnish to Landlord within ten (10) business days of Tenant's receipt of Landlord's request therefor, or any existing or potential holder of any mortgage encumbering the Premises, the Building, the Site and/or the Complex or any potential purchaser of the Premises, the Building, the Site and/or the Complex, (each an "Interested Party"), a statement of the status of any matter pertaining to this Lease, including, without limitation, acknowledgments that (or the extent to which) each party is in compliance with its obligations under the terms of this Lease. In addition, Tenant shall deliver to Landlord, or any Interested Party designated by Landlord (not more than once per calendar year unless there has been an Event of Default hereunder), annual financial statements of Tenant and any guarantor of Tenant's obligations under this Lease, as reasonably requested by Landlord, including, but not limited to financial statements for the past three (3) years. Any such status statement (but no such financial statement) delivered by Tenant pursuant to this Section 9.15 may be relied upon by any Interested Party. Landlord shall keep any non-public financial statements provided by Tenant pursuant to this Section 9.15 confidential, and shall not disclose the same other than (i) to Landlord's officers, employees and consultants (or to any of the Interested Parties) or (ii) to the extent required by applicable law or by any administrative, governmental or judicial proceeding, and to the extent such financial statements are provided to Interested Parties, Landlord shall advise such Interested Parties of the obligation to keep the same confidential as provided in this Section 9.15. Landlord shall deliver to Tenant within ten (10) business days of Tenant's request therefor, a customary estoppel certificate which may be relied upon by Tenant and third parties reasonably designated by Tenant.

9.16 Self-Help

Following an Event of Default hereunder (although notice and cure shall not be required either in an emergency or where Tenant has alleged in written notice to Landlord that an unsafe or dangerous condition exists), Landlord shall have the right, but shall not be obligated, to enter upon the Premises and to reasonably perform such obligation notwithstanding the fact that no specific provision for such substituted performance by Landlord is made in this Lease with respect to such default. In performing such obligation, Landlord may make any reasonable payment of money or perform any other reasonable act. All reasonable sums so paid by Landlord (together with interest at the rate of one and one-half percentage points over the then prevailing prime rate in Boston as set by Bank of America, N.A., or its successor (but in no event greater than the maximum rate permitted by applicable Legal Requirements) and all reasonable costs and expenses in connection with the performance of any such act by Landlord, shall be deemed to be Additional Rent under this Lease and shall be payable to Landlord within fifteen (15) days of demand therefor. Landlord may exercise the foregoing rights without waiving any other of its rights or releasing Tenant from any of its obligations under this Lease.

9.17 Holding Over

Any holding over by Tenant after the expiration of the term of this Lease shall be treated as a tenancy at sufferance and shall be on the terms and conditions as set forth in this Lease, as far as applicable except that Tenant shall pay as a use and occupancy charge an amount equal to 150% of the Annual Fixed Rent and Additional Rent calculated (on a daily basis) at the highest rate payable under the terms of this Lease, for the first sixty (60) days of such holding over, and thereafter increasing to 200% of the Annual Fixed Rent and Additional Rent calculated (on a daily basis) at the highest rate payable under the terms of this Lease, measured from the day on which Tenant's hold-over commences and terminating on the day on which Tenant vacates the Premises. In addition, Tenant shall save Landlord, its agents and employees harmless and will exonerate, defend and indemnify Landlord, its agents and employees from and against any and all damages which Landlord may suffer on account of Tenant's hold-over in the Premises after the expiration or prior termination of the term of this Lease; provided, Landlord agrees that Tenant shall not be liable for consequential damages unless such holding over exceeds sixty (60) days. Nothing in the foregoing nor any other term or provision of this Lease shall be deemed to permit Tenant to retain possession of the Premises or hold over in the Premises after the expiration or earlier termination of the Lease Term. All property which remains in the Building or the Premises after the expiration or termination of this Lease shall be conclusively deemed to be abandoned and may either be retained by Landlord as its property or sold or otherwise disposed of in such manner as Landlord may see fit. If any part thereof shall be sold, then Landlord may receive the proceeds of such sale and apply the same, at its option against the expenses of the sale, the cost of moving and storage, any arrears of rent or other charges payable hereunder by Tenant to Landlord and any damages to which Landlord may be entitled under this Lease and at law and in equity.

9.18 Security Deposit

(A) Concurrently with the execution of this Lease, Tenant shall pay to Landlord a security deposit in the amount of Four Hundred Fifty Thousand and 00/100 Dollars ($450,000) and Landlord shall hold the same, throughout the Term of this Lease (including the Extended Term, if applicable), unless sooner returned to Tenant as provided in this Section 9.18, as security for the performance by Tenant of all obligations on the part of Tenant to be performed under this Lease. Such deposit shall be in the form of an irrevocable, unconditional, negotiable letter of credit (the "Letter of Credit"). The Letter of Credit shall (i) be issued by and drawn on a bank reasonably approved by Landlord (it being agreed that Silicon Valley Bank shall be deemed approved by Landlord for so long as it meets the other requirements of this Section 9.18) and at a minimum having a long term issuer credit rating from Standard and Poor's Professional Rating Service of A or a comparable rating from Moody's Professional Rating Service, (ii) be substantially in the form attached hereto as Exhibit H, (iii) permit one or more draws thereunder to be made accompanied only by certification by Landlord or Landlord's managing agent that pursuant to the terms of this Lease, Landlord is entitled to draw upon such Letter of Credit, (iv) permit transfers at any time without charge, (v) permit presentment in Boston, Massachusetts and (vi) provide that any notices to Landlord be sent to the notice address provided for Landlord in this Lease. If the credit rating for the issuer of such Letter of Credit falls below the standard set forth in (i) above or if the financial condition of such issuer changes in any other material adverse way or if any trustee, receiver or liquidator shall be appointed for the issuer, Landlord shall have the right to require that Tenant provide a substitute letter of credit that complies in all respects with the requirements of this Section, and Tenant's failure to provide the same within thirty (30) days following Landlord's written demand therefor shall entitle Landlord to immediately draw upon the Letter of Credit. Any such Letter of Credit shall be for a term of two (2) years (or for one (1) year if the issuer thereof regularly and customarily only issues letters of credit for a maximum term of one (1) year) and shall in either case provide for automatic renewals through the date which is ninety (90) days subsequent to the scheduled expiration of this Lease (as the same may be extended). Any failure or refusal of the issuer to honor the Letter of Credit shall be at Tenant's sole risk and shall not relieve Tenant of its obligations hereunder with regard to the security deposit. Upon the occurrence of any Event of Default, Landlord shall have the right from time to time without prejudice to any other remedy Landlord may have on account thereof, to draw on all or any portion of such deposit held as a Letter of Credit and to apply the proceeds of such Letter of Credit or any cash held as such deposit, or any part thereof, to Landlord's damages arising from such Event of Default on the part of Tenant under the terms of this Lease. If Landlord so applies all or any portion of such deposit, Tenant shall within seven (7) business days after notice from Landlord deposit cash with Landlord in an amount sufficient to restore such deposit to the full amount stated in this Section 9.18. While Landlord holds any cash deposit Landlord shall have no obligation to pay interest on the same and shall have the right to commingle the same with Landlord's other funds. Neither the holder of a mortgage nor the Landlord in a ground lease on property which includes the Premises shall ever be responsible to Tenant for the return or application of any such deposit, whether or not it succeeds to the position of Landlord hereunder, unless such deposit shall have been received in hand by such holder or ground Landlord or such holder or ground lessor shall have assumed same, or be deemed to have assumed same

(B)Landlord shall return a Seventy-Five Thousand and 00/100 Dollar ($75,000.00) portion of such deposit to Tenant so that the remainder of such deposit shall be Three Hundred Seventy-Five Thousand and 00/100 Dollars ($375,000.00) (or if such deposit is in the form of a Letter of Credit, Landlord shall exchange the Letter of Credit for a Letter of Credit delivered by Tenant which reduces the amount secured by the Letter of Credit by the amount stated hereinabove and otherwise in strict conformity with the requirements herein) at the beginning of the fourth (4) Rent Year (the "First Scheduled Reduction Date") if (i) no Event of Default then exists, (ii) Landlord has not applied such deposit or any portion thereof to Landlord's damages arising from any default on the part of Tenant, whether or not Tenant has restored the amount so applied by Landlord, (iii) there has not been more than one (1) monetary or material non-monetary Events of Default that occurred during the immediately preceding 12-month period, even if later cured, (iv) Tenant has not declared bankruptcy at any point during the Term and (v) either (A) Tenant has demonstrated a positive net income in accordance with generally accepted accounting principles for its most recent fiscal year prior to the First Scheduled Reduction Date, as shown in its public filings for such fiscal year (or, in the event that Tenant is an entity other than a publicly held company whose shares are traded on a national stock exchange, as shown in a certified copy of its most recent audited financial statements covering such fiscal year), or (B) Tenant has demonstrated that it holds a minimum of cash or cash equivalents of $30,000,000 as of the First Scheduled Reduction Date, as shown in its public filings (or, in the event that Tenant is an entity other than a publicly held company whose shares are traded on a national stock exchange, as shown in a certified copy of its most recent audited financial statements). In the event that Tenant does not meet all of the foregoing conditions set forth in clauses (i) through (v) of the immediately preceding sentence at the beginning of the fourth (4) Rent Year, then the First Scheduled Reduction Date shall be deferred until such date as Tenant has met such conditions.

(C)Landlord shall return an additional Seventy-Five Thousand and 00/100 Dollar ($75,000.00) portion of such deposit to Tenant so that the remainder of such deposit shall be Thee Hundred Thousand and 00/100 Dollars ($300,000.00) (or if such deposit is in the form of a Letter of Credit, Landlord shall exchange the Letter of Credit for a Letter of Credit delivered by Tenant which reduces the amount secured by the Letter of Credit by the amount stated hereinabove and otherwise in strict conformity with the requirements herein) at the beginning of the fifth (5th) Lease Year (the "Second Scheduled Reduction Date") if (i) no Event of Default then exists, (ii) Landlord has not applied such deposit or any portion thereof to Landlord's damages arising from any default on the part of Tenant, whether or not Tenant has restored the amount so applied by Landlord, (iii) there has not been more than one (1) monetary or material non-monetary Events of Default that occurred during the immediately preceding 12-month period, even if later cured, (iv) Tenant has not declared bankruptcy at any point during the Term and (v) either (A) Tenant has demonstrated a positive net income in accordance with generally accepted accounting principles for its most recent fiscal year prior to the First Scheduled Reduction Date, as shown in its public filings for such fiscal year (or, in the event that Tenant is an entity other than a publicly held company whose shares are traded on a national stock exchange, as shown in a certified copy of its most recent audited financial statements covering such fiscal year), or (B) Tenant has demonstrated that it holds a minimum of cash or cash equivalents of $30,000,000 as of the Second Scheduled Reduction Date, as shown in its public filings (or, in the event that Tenant is an entity other than a publicly held company whose shares are traded on a national stock exchange, as shown in a certified copy of its most recent audited financial statements). In the event that Tenant does not meet all of the foregoing conditions set forth in clauses (i) through (v) of the immediately preceding sentence at the beginning of the fifth (5th) Rent Year, then the Second Scheduled Reduction Date shall be deferred until such date as Tenant has met such conditions, but in no event shall such reduction occur until one (1) Lease Year after the First Scheduled Reduction Date occurs (as the same may be deferred as provided above). In no event shall the Letter of Credit be reduced to less than $300,000 hereunder.

(D)If Tenant believes that it has satisfied all the conditions precedent to a reduction in the amount of the security deposit, then it shall request such reduction in writing to Landlord, which request shall certify to Landlord that all such conditions have been satisfied. If Landlord agrees, in its reasonable determination, that all of the aforesaid conditions are met, the security deposit shall be so reduced in accordance with this Section 9.18. No Letter of Credit shall automatically reduce, but any reduction in the amount thereof shall require Landlord's prior written notice to the issuer of the Letter of Credit of the reduced amount. Promptly after Landlord's receipt of Tenant's request for a reduction as described above, Landlord shall determine whether such a reduction is permitted in accordance with this Section 9.18, and if it is, Landlord shall notify the issuer of the Letter of Credit of the amount to which the Letter of Credit shall be reduced.

(E) Provided no Event of Default then exists, Landlord shall return the deposit, or so much thereof as shall not have theretofore been applied in accordance with the terms of this Section 9.18, to Tenant within sixty (60) days of the expiration or earlier termination of the term of this Lease (as the same may have been extended) and surrender possession of the Premises by Tenant to Landlord in the condition required in the Lease at such time.

9.19 Late Payment

If Landlord shall not have received any payment or installment of Annual Fixed Rent or Additional Rent (the "Outstanding Amount") on or before the date on which the same first becomes payable under this Lease (the "Due Date"), the amount of such payment or installment shall incur a late charge equal to the sum of: (a) five percent (5%) of the Outstanding Amount for administration and bookkeeping costs associated with the late payment and (b) interest on the Outstanding Amount from the Due Date through and including the date such payment or installment is received by Landlord, at a rate equal to the lesser of (i) the rate announced by Bank of America, N.A., (or its successor) from time to time as its prime or base rate (or if such rate is no longer available, a comparable rate reasonably selected by Landlord), plus two percent (2%), or (ii) the maximum applicable legal rate, if any. Such interest shall be deemed Additional Rent and shall be paid by Tenant to Landlord within fifteen (15) days of demand therefor.

Landlord agrees to waive the late charge due hereunder for the first late payment by Tenant under this Lease per calendar year, provided that Landlord receives such payment from Tenant within five (5) business days of the Due Date (provided further that if such payment is not received with the aforesaid five (5) business day period, interest on the Outstanding Amount will accrue as of the original Due Date).

9.20 Tenant's Payments

Each and every payment and expenditure, other than Annual Fixed Rent, shall be deemed to be Additional Rent hereunder, whether or not the provisions requiring payment of such amounts specifically so state, and shall be payable, unless otherwise provided in this Lease, within thirty (30) days after written demand by Landlord, and in the case of the non-payment of any such amount, Landlord shall have, in addition to all of its other rights and remedies, all the rights and remedies available to Landlord hereunder or by law in the case of non-payment of Annual Fixed Rent. Unless expressly otherwise provided in this Lease, the performance and observance by Tenant of all the terms, covenants and conditions of this Lease to be performed and observed by Tenant shall be at Tenant's sole cost and expense. If Tenant has not objected to any statement of Additional Rent which is rendered by Landlord to Tenant within one hundred eighty (180) days after Landlord has rendered the same to Tenant, then the same shall be deemed to be a final account between Landlord and Tenant not subject to any further dispute. In the event that Tenant shall seek Landlord's consent or approval under this Lease, then Tenant shall reimburse Landlord, upon demand, as Additional Rent, for all reasonable costs and expenses, including legal and architectural costs and expenses, incurred by Landlord in processing such request, whether or not such consent or approval shall be given. Notwithstanding anything in this Lease to the contrary, if Landlord or any affiliate of Landlord has elected to qualify as a real estate investment trust ("REIT"), any service required or permitted to be performed by Landlord pursuant to this Lease, the charge or cost of which may be treated as impermissible tenant service income under the laws governing a REIT, may be performed by a taxable REIT subsidiary that is affiliated with either Landlord or Landlord's property manager, an independent contractor of Landlord or Landlord's property manager (the "Service Provider"). If Tenant is subject to a charge under this Lease for any such service, then, at Landlord's direction, Tenant will pay such charge either to Landlord for further payment to the Service Provider or directly to the Service Provider, and, in either case, (i) Landlord will credit such payment against Additional Rent due from Tenant under this Lease for such service, and (ii) such payment to the Service Provider will not relieve Landlord from any obligation under the Lease concerning the provisions of such service.

9.21 Waiver of Trial by Jury

To induce Landlord to enter into this Lease, Tenant hereby waives any right to trial by jury in any action, proceeding or counterclaim brought by either Landlord or Tenant on any matters whatsoever arising out of or any way connected with this Lease, the relationship of the Landlord and the Tenant, the Tenant's use or occupancy of the Premises and/or any claim of injury or damage, including but not limited to, any summary process eviction action.

9.22 Electronic Signatures

The parties acknowledge and agree that this Lease may be executed by electronic signature, which shall be considered as an original signature for all purposes and shall have the same force and effect as an original signature. Without limitation, "electronic signature" shall include faxed versions of an original signature or electronically scanned and transmitted versions (e.g., via pdf) of an original signature.

9.23 Governing Law

This Lease shall be governed exclusively by the provisions hereof and by the law of the Commonwealth of Massachusetts, as the same may from time to time exist.

9.24 Back-Up Generator

Tenant shall have the right to install and use a back-up generator not to exceed 250 kw (the "Back-up Generator") exclusively serving the Premises on the following terms and conditions:

(a) It is understood and agreed that Tenant shall be responsible, at its sole cost and expense, for installing all necessary connections (the "Generator Connections") between the Back-up Generator and the Premises. In addition to complying with the applicable construction provisions of this Lease, Tenant shall not install or operate the Back-up Generator or Generator Connections in any portion of the Building or the Site until (x) Tenant shall have obtained Landlord's prior written approval, which approval will not be unreasonably withheld, delayed or conditioned, of Tenant's plans and specifications for the placement and installation of the Back-up Generator and the Generator Connections, and (y) Tenant shall have obtained and delivered to Landlord copies of all required governmental and quasi-governmental permits, approvals, licenses and authorizations necessary for the lawful installation, operation and maintenance of the Back-up Generator and Generator Connections.

(b) Landlord shall have no liability to Tenant for the operation of the Back-up Generator.

(c) Landlord shall have no obligation to provide any services to the Back-up Generator. Tenant shall, at its sole cost and expense and otherwise in accordance with the provisions of this Section 9.24, arrange for all utility services required for the operation of the Back-up Generator.

(d) Tenant shall, at its sole cost and expense, be solely responsible for all maintenance and repair to the Back-up Generator and the Generator Connections. In connection therewith, Tenant shall provide Landlord with evidence on an annual basis of the existence of a maintenance contract for the Back-up Generator (providing for semi-annual preventative maintenance and annual loadbank testing) with a service provider reasonably acceptable to Landlord.

(e) Tenant shall have no right to make any material changes, alterations, signs, or other improvements to the Back-up Generator or the Generator Connections without Landlord's prior written consent, which consent shall not be unreasonably withheld or delayed.

(f) Tenant shall be responsible for the cost of repairing any damage to the Building or the Site (including, without limitation, damage to all associated wiring, circuitry and panels) caused by its use of the Back-up Generator and the Generator Connections.

(g) Except for assignees of this Lease or subtenants no other person, firm or entity shall have the right to connect to the Back-up Generator other than Tenant.

(h) To the maximum extent permitted by applicable Legal Requirements, Tenant's use of the Back-up Generator and the Generator Connections shall be at the sole risk of Tenant and shall be limited to operations only as necessary when standard electrical service is interrupted, and Landlord shall have no liability to Tenant in the event that the Back-up Generator or the Generator Connections are damaged for any reason, unless such damage arises from the negligence or willful misconduct of Landlord or any Landlord Parties, subject to Section 8.13 of this Lease.

(i) Tenant shall comply with all applicable Legal Requirements in Tenant's use of the Back-up Generator and the Generator Connections. Tenant shall immediately notify Landlord of any release or spill of fuel or other Hazardous Materials related to the Back-up Generator.

(j) Landlord shall have the right, upon no less than thirty (30) days' notice to Tenant, and at Landlord's sole cost and expense (which may, at Tenant's election, include the installation of a temporary generator sufficient for Tenant's requirements), to relocate the Back-up Generator and the Generator Connections to another area within the Site. Any such relocation shall be performed by Tenant at Landlord's reasonable expense and shall be scheduled at times reasonably satisfactory to Tenant so as to minimize interference with Tenant's business operations.

(k) Landlord shall have the right to designate or identify the Back-up Generator with or by a lease or license number (or other marking) and to place such number (or marking) on or near such Back-up Generator.

(m) It is expressly understood and agreed that the Back-up Generator shall remain at the Complex and become the property of Landlord upon the expiration or earlier termination of this Lease.

9.25 Tenant's Rooftop Equipment

(a) Subject to the terms and provisions of this Section 9.25, Tenant shall be permitted to install (x) telecommunications equipment, related receiving equipment, related cable connections and other related telecommunications equipment (collectively, the "Telecom Equipment") and (y) HVAC equipment and any and all related equipment to accommodate Tenant's HVAC requirements (collectively, the "HVAC Unit"), in a location or locations on the rooftop of the Building in an area to be mutually agreed upon the parties, provided that such installation does not adversely affect the structural elements or the visual aesthetic of the Building as reasonably determined by Landlord (it being acknowledged that Landlord may reasonably require installation of screening for such installations) in its reasonable discretion. Landlord may require the use of its designated roofing contractor for any penetrations of the roof or other work which could impact the warranty of the roof. Tenant shall have no right to license, sublease, assign or otherwise transfer its rights to install and use Telecom Equipment and the HVAC Unit (other than to an assignee or subtenant permitted or consented to under this Lease). Landlord shall not install, nor permit others to install any telecommunications equipment, antennas or similar installations on the rooftop of the Building or elsewhere on the Site.

(b) Tenant's use of the Telecom Equipment and the HVAC Unit (collectively, the "Tenant's Equipment") shall be upon all of the conditions of the Lease, except as modified below:

(i) It is understood and agreed that Tenant shall be responsible, at its sole cost and expense, for installing the Tenant's Equipment. In addition to complying with the applicable construction provisions of this Lease, Tenant shall not install or operate any portion of the Tenant's Equipment until Tenant shall have obtained Landlord's prior written approval, which approval will not be unreasonably withheld, delayed, or conditioned, of Tenant's plans and specifications therefor.

(ii) Landlord shall have no obligation to provide any services to the Tenant's Equipment, provided Tenant shall have the right to connect Tenant's Equipment to existing Base Building utility systems, subject to Landlord's right to approve such connections, which approval will not be unreasonably withheld, delayed or conditioned. Tenant shall, at its sole cost and expense and otherwise in accordance with the provisions of this Section 9.25, arrange for all utility services required for the operation of the Tenant's Equipment.

(iii) Tenant shall have no right to make any material changes, alterations or other improvements to the Tenant's Equipment without Landlord's prior written consent, which consent will not be unreasonably withheld, delayed or conditioned; provided, however, that Tenant shall have the right to maintain and make repairs to and replace from time to time, the Tenant's Equipment.

(iv) Tenant shall be responsible for the cost of repairing any damage to the Building caused by the installation, operation and removal of the Tenant's Equipment.

(v) To the maximum extent permitted by law, Tenant's use of the Tenant's Equipment shall be at the sole risk of Tenant, and Landlord shall have no liability to Tenant in the event that the Tenant's Equipment is damaged for any reason, unless such damage arises from the negligence or willful misconduct of Landlord or any Landlord Parties subject to Section 8.13 of this Lease.

(vi) Landlord shall have the right, upon no less than thirty (30) days' notice to Tenant and at Landlord's sole cost and expense, to relocate portions of the Tenant's Equipment to another area on the roof of the Building. Any such relocation shall be performed at a time which does not materially interfere with Tenant's business operations.

(vii) Upon not less than sixty (60) days prior written request from Landlord, Tenant shall, at its sole cost and expense, remove Tenant's Equipment (or such elements of the same as Landlord shall designate) and restore any areas affected by the installation and subsequent removal of Tenant's Equipment upon the expiration or earlier termination of the Term.

(c) Tenant shall, at its sole cost and expense, secure and maintain in full force and effect the approvals of all governmental authorities and all permits required by governmental authorities having jurisdiction over such approvals for the Tenant's Equipment, and shall provide Landlord with copies of such approvals and permits prior to commencing any work with respect thereto. Tenant shall be solely responsible for maintaining Tenant's Equipment in compliance with applicable Legal Requirements (and Landlord assumes not risk with respect thereto). In addition, Tenant shall be solely responsible for all costs and expenses in connection with the installation, maintenance, use and removal of the Tenant's Equipment.

ARTICLE X

Expansion Option

10.1 Expansion Option.

(A) Expansion Premises. On the conditions (which conditions Landlord may waive, at its election, by written notice to Tenant at any time) that both at the time that Tenant exercises its expansion option under this Section 10.1 and as of the date upon which the Expansion Premises (as defined below) would have otherwise become incorporated into the Premises: (i) there exists no Event of Default, (ii) this Lease is still in full force and effect, (iii) Tenant has neither assigned this Lease nor sublet more than 5,000 square feet of the Rentable Floor Area of the Premises in the aggregate (except for an assignment or subletting permitted without Landlord's consent under Section 5.6 hereof), and (iv) Landlord has not previously submitted to Tenant a Landlord's Submitted Offer pursuant to Section 10.2 below, Tenant shall have the option to lease the Expansion Premises on and subject to the terms and provisions herein set forth.

"**Expansion Premises**" means additional area on the ground level of the Building contiguous to the Premises in an amount to be designated by Tenant in Tenant's Expansion Request Notice (as defined below) containing (i) not less than 25,000 square feet of Rentable Floor Area, and (ii) not more than 80,000 square feet of Rentable Floor Area, all to be constructed and finished in the location behind the existing Building (but in no event may the square footage of the Expansion Premises exceed the square footage that would result in the need to construct any type of parking structure, whether in or below the Expansion Premises, or elsewhere on the Site).

(B) Exercise of Rights to Expansion Premises. Subject to the conditions set forth in Section 10.1(A) above, Tenant may exercise its option to lease the Expansion Premises by giving written notice to Landlord ("**Expansion Request Notice**") not later than fifteen (15) months prior to the expiration of the Term of this Lease (time is of the essence) (the "**Expansion Notice Deadline**") (i) stating that Tenant is interested in exercising its expansion option for the Expansion Premises, (ii) identifying the selected Rentable Floor Area of the Expansion Premises (subject to the size parameters expressly set forth in Section 10.1(A) above), (iii) stating the proposed term for the Expansion Premises, which the parties agree shall not be less than eight (8) years and not be more than twelve (12) years from the commencement date applicable to the Expansion Premises (the "**Expansion Term**"). Tenant's Expansion Request Notice shall include a detailed copy of Tenant's financial statements for its two (2) most recently completed fiscal years, as well as year-to-date financials through Tenant's most recently completed quarter. Upon the timely giving of the Expansion Request Notice, Landlord shall, within one hundred and twenty (120) days after receipt thereof, deliver written notice to Tenant (the "**Landlord's Expansion Response**") which sets forth (i) the proposed Annual Fixed Rent for the Expansion Premises determined in accordance with Section 10.1(C)(iii) below (it being understood that Tenant shall continue to pay Landlord's Operating Expenses and Landlord's Tax Expenses in accordance Article II of the Lease), (ii) an estimate of the Total Project Costs, (iii) the anticipated commencement date (the "**Anticipated Expansion Inclusion Date**") for the Expansion Premises, (iv) the proposed level of buildout of the Expansion Premises, (v) the proposed landlord contribution, if any, (vi) the required increase in the security deposit, and (vii) Landlord's Rent Quotation with respect to the original Premises for the period of extension of the Term applicable thereto as provided below. Upon the giving of the Landlord's Expansion Notice, Landlord and Tenant shall negotiate an amendment to this Lease to memorialize Tenant's lease of the Expansion Premises consistent with the provisions of this Section 10.1 (the "**Expansion Amendment**") for a period of sixty (60) days following the delivery of Landlord's Expansion Response (the ("**Expansion Amendment Deadline**"). If the parties fail to execute the Expansion Amendment by the Expansion Amendment Deadline (time being of the essence) for any reason, then the applicable Expansion Request Notice and Landlord's Expansion Response each shall be deemed withdrawn and of no further force and effect, but the failure of the parties to execute the Expansion Amendment by the Expansion Amendment Deadline shall not prohibit Tenant from delivering additional Expansion Request Notices in the future provided (i) the same is not delivered within six (6) months of the last Expansion Request Notice, (ii) such notices are delivered to Landlord no later than the Expansion Notice Deadline, and (iii) Landlord has not previously submitted to Tenant a Landlord's Submitted Offer pursuant to Section 10.2 below. The failure of the parties to reach agreement on the Expansion Amendment shall not be deemed a default by either party, permit a termination of this Lease or otherwise entitle the parties to any rights or remedies under this Lease. Tenant shall have no right to deliver an Expansion Request Notice after the Expansion Notice Deadline, time being of the essence of this Section 10.1(B). The execution of the Expansion Amendment shall not be deemed to waive any of the conditions to Tenant's lease of the Expansion Premises, unless otherwise specifically provided in the Expansion Amendment.

The Expansion Amendment shall provide that the term with respect to the original Premises shall be extended so as to be co-terminus with the Expansion Term and the Annual Fixed Rent for the original Premises shall be determined in the manner set forth in Section 2.4.1(B) of the Lease except that (i) Tenant shall not be required to deliver any Exercise Notice, (ii) Landlord shall provide Landlord's Rent Quotation as part of Landlord's Expansion Response, and (iii) notwithstanding any provision of Section 2.4.1 to the contrary, in no event shall the Annual Fixed Rent for the period of such extension be less than the Annual Fixed Rent for the last year of the Term of this Lease as it may have been extended. Notwithstanding any implication to the contrary Landlord has no obligation to make any additional payment to Tenant in respect of any construction allowance or the like or to perform any work to the Premises as a result of such extension.

(C) Lease Provisions Applying to Expansion Premises. The leasing to Tenant of the Expansion Premises pursuant to the Expansion Amendment shall be upon all the same terms and conditions of the Lease except as follows:

(i) Commencement Date and Rent Commencement Date. The commencement date (and rent commencement date) with respect to the Expansion Premises shall be the later date to occur of (y) the Anticipated Expansion Inclusion Date, and (z) the date that Landlord delivers the entire Expansion Premises to Tenant pursuant to the requirements of this Section 10.1(C) substantially complete and vacant and free of any occupancy rights, personal property and debris (the "**Expansion Premises Commencement Date**"). From and after the Expansion Premises Commencement Date, all references in the Lease to "Premises" and the "Building" shall include the Expansion Premises.

(ii) Term. The term of the Lease as to the Expansion Premises shall be the Expansion Term as provided in Section 10.1(B) above (and the term of the original Premises shall be co-terminous).

(iii) Annual Fixed Rent. The Annual Fixed Rent for the Expansion Premises shall be equal to the amount reasonably estimated by Landlord to recover the Total Project Costs and to pay Landlord an annual rate of return on the Total Project Costs (as hereinafter defined) equal to 275 basis points over the average yield on the ten (10) year United States Treasury notes, as determined by Landlord at the time Landlord submits Landlord's Expansion Response as provided above; provided, however, in no event shall the Annual Fixed Rent payable for the Expansion Premises be less than the amount necessary to recover the Total Project Costs and to pay Landlord an eight percent (8%) per annum rate of return on the Total Project Costs (as defined below). The "**Total Project Costs**" shall mean all of the total hard and soft costs incurred by Landlord to design, permit and construct the Expansion Premises and related improvements, including, but not limited to, landscaping; construction and installation of drives, driveways, and other site improvements; provision of additional parking facilities at Site (subject to the limitation set forth in Section 10.1(A) above) (the "**Expansion Work**"); and a construction management fee equal to five percent (5%) of the Total Project Costs). Total Project Costs shall include the land value of the land area reasonably allocated to the Expansion Premises and based on a $100.00 per square foot basis (as of the date of this Lease), such amount to be escalated annually by four percent (4%) on each anniversary of the Commencement Date of the original Premises.

(iv) Landlord's Contribution. Landlord shall have no obligation to provide any contribution to Tenant in respect of the Expansion Premises except as expressly provided in the Expansion Amendment.

(v) Construction of Expansion Work During Occupancy. Tenant acknowledges and agrees that the Expansion Work will be performed by Landlord (or its contractor) while Tenant is in occupancy of the Premises and the same shall not be considered an eviction, actual or constructive, of Tenant from the Premises and shall not entitle Tenant to terminate this Lease or to an abatement of any Annual Fixed Rent or Additional Rent payable hereunder. Tenant acknowledges and agrees that such ongoing construction may result in noise, dust, vibrations and other construction disturbances and Tenant's exercise of its rights under this Section 10.1 shall constitute Tenant's agreement to perform the obligations of Tenant under this Lease with knowledge of the construction of the Expansion Work and the disruption and disturbances that may result therefrom, including a temporary reduction in parking spaces at the Site during the construction of the Expansion Premises. Landlord shall, during the performance of the Expansion Work, exercise commercially reasonable efforts (in light of the construction activities being performed and Tenant's operations in the original Premises) to minimize interference with Tenant's use of or access to the Premises pursuant to this Lease and to implement reasonable construction measures and procedures to mitigate dust and noise to the extent commercially feasible provided that such efforts and measures shall not require Landlord to perform such construction activities outside of normal building hours or at material additional cost to Landlord, except that, if requested by Tenant, Landlord agrees to perform elements of construction of the Expansion Premises outside normal business hours to the extent the same would have a material adverse effect on Tenant's ability to conduct business operations in the Premises if such work were performed during normal business hours.

(D) Permitting Contingency. The lease of the Expansion Premises, the obligation of Landlord to perform the Expansion Work and the Expansion Amendment shall be subject to the condition that Landlord obtains all necessary building and other permits and governmental approvals, including, but not limited to, site plan approval, special permits, variances, conservation commission approvals and a building permit (collectively, the "**Permits and Approvals**") required to construct and operate the Expansion Premises (the "**Permit Contingency**"). After the execution of the Expansion Amendment, Landlord agrees to promptly apply for, and diligently pursue, such Permits and Approvals for the Expansion Premises. To the extent Landlord determines that it will be unable through the exercise of reasonable efforts to obtain the Permits and Approvals within nine (9) months after the date of the Expansion Amendment, it shall have the right to terminate the Expansion Amendment upon written notice to Tenant delivered not later than the expiration of such 9-month period, and upon timely delivery of such notice, the Expansion Amendment shall be of no further force and effect, but Tenant shall have the rights set forth in Section 10.3 below to the extent applicable. The failure of Landlord to obtain such Permits and Approvals for the Expansion Premises shall not be deemed a default by Landlord, permit a termination of this Lease by Tenant (except to the limited extent set forth in Section 10.3 below) or otherwise entitle Tenant to any rights or remedies under this Lease.

(E) In the event Landlord has submitted to Tenant a Landlord's Submitted Offer pursuant to Section 10.2 below (and whether or not Tenant leased the First Refusal Space in connection with such Landlord's Submitted Offer pursuant to the provisions of said Section 10.2), the provisions of this Section 10.1 shall be of no further force and effect.

10.2 Modified Right of First Refusal.

(A) Subject to the terms of this Section 10.2, Landlord reserves the right to expand the Building and/or construct additional improvements or buildings on the Site for occupancy by other tenants (the "**Additional Areas**"); however, Landlord agrees not to lease the Additional Areas other than to Tenant for a period of forty-eight (48) months from the date of this Lease (the "**Black-out Period**") provided there is no Event of Default by Tenant hereunder. On the conditions (which conditions Landlord may waive by written notice to Tenant) that at the time of exercise of the option to extend and at the commencement date of the Black-out Extension Term (as defined below) (i) there exists no Event of Default, (ii) this Lease is still in full force and effect, and (iii) Tenant has neither assigned this Lease nor sublet more than 5,000 square feet of the Rentable Floor Area of the Premises in the aggregate (except for an assignment or subletting permitted without Landlord's consent under Section 5.6.1 hereof), Tenant shall have the right to extend the Term hereof upon all the same terms, conditions, covenants and agreements herein contained (except for the Annual Fixed Rent which shall be adjusted during the option period as hereinbelow set forth) for one (1) period of three (3) years (the "**Black-out Extension Term**") in the manner set forth in Section 2.4.1 of the Lease except that (i) Tenant shall give the Exercise Notice with respect to the Black-out Extension Term not later than the initial expiration of the Black-out Period (as set forth above), and (ii) notwithstanding any provision of Section 2.4.1 to the contrary, in no event shall the Annual Fixed Rent payable during the Black-out Extension Term be less than the Annual Fixed Rent for the last year of the Term of this Lease as it may have been extended. Notwithstanding any implication to the contrary Landlord has no obligation to make any additional payment to Tenant in respect of any construction allowance or the like or to perform any work to the Premises as a result of the exercise by Tenant of such option, and in the event Tenant exercises such right to extend, the Black-out Period shall be extended by three (3) years from the date the Black-out Period would have expired as provided above. The parties agree that the foregoing right to extend the Term for the Black-out Extension Term is in addition to the Extension Option contained in Section 2.4.1 of the Lease, but in no event shall the Term be extended pursuant to this Section 10.2(A) by more than three (3) years in total.

(B) From and after the expiration of the Black-out Period (as the same may be extended pursuant to the provisions of Section 10.2(A)) and continuing through the Expansion Notice Deadline (as defined in Section 10.1 above), subject to the provisions of this Section 10.2, Landlord agrees that if Landlord desires to lease to a third party any Additional Areas (the "**First Refusal Space**") then, provided that, (i) there exists no Event of Default, (ii) this Lease is still in full force and effect, (iii) Tenant has neither assigned the Lease nor sublet more than 5,000 square feet of the Premises (other than an assignment or subletting permitted under Section 5.6), and (iv) Tenant has not previously leased the Expansion Premises pursuant to Section 10.1 (it being agreed that if Landlord and Tenant enter into an Expansion Amendment and Landlord thereafter terminates the Expansion Amendment pursuant to Section 10.1(D) due to its inability to obtain the Permits and Approvals, Tenant shall not be deemed to have leased the Expansion Premises), Landlord shall give notice of the availability of such space to Tenant and all material business terms on which Landlord is willing to lease such space to Tenant, which shall include estimated square footage of, and delivery date for, the First Refusal Space, Annual Base Rent, level of buildout, landlord contribution, additional security deposit, and Landlord's Rent Quotation with respect to the period of extension of the Term as to the original Premises so as to make the same co-terminous with the First Refusal Term (as defined below) ("**Landlord's Submitted Offer**"). Except with respect to the extension of the term applicable to the original Premises, Landlord's Submitted Offer shall be based on substantially the same business terms set forth in a term sheet which Landlord has submitted to a third party to lease such First Refusal Space and shall include a signature block for countersignature by Tenant.

(C) Tenant shall have the right to accept Landlord's Submitted Offer by countersigning Landlord's Submitted Offer and delivering an original of the same to Landlord within ten (10) business days after its receipt, together with a detailed copy of Tenant's financial statements for its two (2) most recently completed fiscal years, as well as year-to-date financials through Tenant's most recently completed quarter, and if desired, a request for a Broker Determination of the Annual Fixed Rent with respect to the period of extension of the Term as to the original Premises. Within ten (10) business days after Landlord's receipt of such accepted Landlord's Submitted Offer from Tenant, Landlord shall deliver to Tenant two (2) counterpart originals of an amendment to this Lease to incorporate the First Refusal Space into the Premises demised under this Lease upon the terms and conditions of such accepted Landlord's Submitted Offer and subject to such additional security deposit, if any, required by Landlord as provided below (the "**First Refusal Amendment**"). Within fifteen (15) business days after Tenant's receipt of such amendment, Tenant shall execute both counterpart originals of such amendment and shall deliver the same to Landlord along with appropriate evidence of the authority of Tenant to enter into the transaction and any additional security deposit required under the First Refusal Amendment. If Tenant shall duly and timely comply with the foregoing, Landlord shall execute the two (2) counterpart original amendments and shall promptly return one (1) fully executed counterpart to Tenant.

(D) If at the expiration of ten (10) business days after Tenant's receipt of Landlord's Submitted Offer, Tenant shall not have accepted Landlord's Submitted Offer by countersigning and delivering the same to Landlord, or if Tenant shall so execute and deliver such Landlord's Submitted Offer, but at the end of fifteen (15) business days after Tenant's receipt of the First Refusal Amendment Tenant has not entered into such amendment and delivered the same, together with any additional required security deposit, to Landlord and/or has not complied with the provisions of subparagraph (B) above, time being of the essence in respect to all of the same, Landlord shall be free to lease the First Refusal Space upon terms not materially less favorable to Landlord than those contained in Landlord's Submitted Offer without again offering such space to Tenant for lease, it being agreed that if Landlord proposes to lease such First Refusal Space upon terms materially less favorable to Landlord than contained in Landlord's Submitted Offer, the terms of this Section shall continue to apply to such First Refusal Space subject to Landlord's Submitted Offer.

(E) Lease Provisions Applying to First Refusal Space. The leasing to Tenant of the First Refusal Space pursuant to the First Refusal Amendment shall be upon all the same terms and conditions of the Lease except as follows:

(i) Commencement Date and Rent Commencement Date. The commencement date (and rent commencement date) in respect of the First Refusal Space shall be the date that Landlord delivers the entire First Refusal Space to Tenant, substantially complete and vacant and free of any occupancy rights, personal property and debris (the "**First Refusal Premises Commencement Date**"). From and after the First Refusal Premises Commencement Date, all references in the Lease to "Premises" and the "Building" shall include the First Refusal Space.

(ii) Term. The term of the Lease as to the First Refusal Space shall be as set forth in Landlord's Submitted Offer (and the term of the original Premises shall be co-terminous) (the "**First Refusal Term**").

(iii) Annual Fixed Rent. The Annual Fixed Rent for the First Refusal Space shall be as set forth in Landlord's Submitted Offer, and the Annual Fixed Rent for the original Premises with respect to the period the Term is extended so as to be co-terminous with the First Refusal Term shall be determined in the manner set forth in Section 2.4.1(B) of the Lease except that (i) Tenant shall not be required to deliver any Exercise Notice, (ii) Landlord shall provide Landlord's Rent Quotation as part of Landlord's Submitted Offer, and (iii) notwithstanding any provision of Section 2.4.1(B) to the contrary, in no event shall the Annual Fixed Rent for the period of such extension be less than the Annual Fixed Rent for the last year of the Term of this Lease as it may have been extended. Notwithstanding any implication to the contrary Landlord has no obligation to make any additional payment to Tenant in respect of any construction allowance or the like or to perform any work to the original Premises as a result of such extension.

(iv) Condition of First Refusal Space; Landlord's Contribution. The First Refusal Space shall be delivered by Landlord and accepted by Tenant in the condition described in the Landlord's Submitted Offer and Landlord shall not be required to provide any work allowance or contribution to Tenant with respect to the First Refusal Space, except to the extent stated in the Landlord's Submitted Offer.

(v) Construction of First Refusal Space Work During Occupancy. Tenant acknowledges and agrees that the work identified in Landlord's Submitted Offer to be the responsibility of Landlord (the "**First Refusal Space Work**") will be performed by Landlord (or its contractor) while Tenant is in occupancy of the Premises and the same shall not be considered an eviction, actual or constructive, of Tenant from the Premises and shall not entitle Tenant to terminate this Lease or to an abatement of any Annual Fixed Rent or Additional Rent payable hereunder. Tenant acknowledges and agrees that such ongoing construction may result in noise, dust, vibrations and other construction disturbances and Tenant's exercise of its rights under this Section 10.2 shall constitute Tenant's agreement to perform the obligations of Tenant under this Lease with knowledge of the construction of the First Refusal Space Work and the disruption and disturbances that may result therefrom, including a temporary reduction in parking spaces at the Site during the construction of the First Refusal Space Work. Landlord shall, during the performance of the First Refusal Space Work, exercise commercially reasonable efforts (in light of the construction activities being performed and Tenant's operations in the existing Premises) to minimize interference with Tenant's use of or access to the Premises pursuant to this Lease and to implement reasonable construction measures and procedures to mitigate dust and noise to the extent commercially feasible provided that such efforts and measures shall not require Landlord to perform such construction activities outside of normal building hours or at material additional cost to Landlord, except that Landlord agrees to perform elements of construction of the First Refusal Space Work outside normal business hours to the extent the same would have a material adverse effect on Tenant's ability to conduct business operations in the Premises if such work were performed during normal business hours.

(vi) This Article X shall no longer apply.

(F) Security Deposit. Landlord shall have the right to review financial statements of Tenant in connection with any exercise by Tenant of the right of first refusal under this Section 10.2 and to require that Tenant deposit with Landlord a security deposit in the form of a Letter of Credit in an amount reasonably required by Landlord as a condition to Landlord's obligation to construct and lease the First Refusal Space to Tenant.

(G) Permitting Contingency. The lease of the First Refusal Space, the obligation of Landlord to perform the First Refusal Space Work and the First Refusal Amendment shall be subject to the condition that Landlord obtains the Permits and Approvals required to construct and operate the First Refusal Space (the "**First Refusal Permit Contingency**"). After the execution of the First Refusal Amendment, Landlord agrees to promptly apply for, and diligently pursue, such Permits and Approvals. To the extent Landlord determines that it will be unable through the exercise of reasonable efforts to obtain such Permits and Approvals within nine (9) after the date of the First Refusal Amendment, it shall have the right to terminate the First Refusal Amendment upon written notice to Tenant delivered not later than the expiration of such 9-month period, and upon delivery of such notice, the First Refusal Amendment and the rights of Tenant under this Section 10.2 shall be of no further force and effect, but Tenant shall have the rights set forth in Section 10.3 below to the extent applicable. The failure of Landlord to obtain such Permits and Approvals for the First Refusal Space Work shall not be deemed a default by Landlord, permit a termination of this Lease by Tenant (except to the limited extent set forth in Section 10.3 below) or otherwise entitle Tenant to any rights or remedies under this Lease.

(H) In the event Tenant has leased the Expansion Premises pursuant to Section 10.1 above (it being agreed that if Landlord and Tenant enter into an Expansion Amendment and Landlord thereafter terminates the Expansion Amendment pursuant to Section 10.1(D) due to its inability to obtain the Permits and Approvals, Tenant shall not be deemed to have leased the Expansion Premises), the rights of Tenant to lease any First Refusal Space pursuant to this Section 10.2 shall be of no further force and effect.

10.3 Tenant's Right to Rescind Extension for Black-out Extension Term. To the extent (i) Tenant extends the Term by the Black-out Extension Term as provided in Section 10.2 above, and thereafter either (ii)(A) Tenant leases the Expansion Premises pursuant to an Expansion Amendment in accordance with Section 10.1 and Landlord terminates the Expansion Amendment pursuant to Section 10.1(D) above, or (ii)(B) Tenant leases First Refusal Space pursuant to a First Refusal Amendment in accordance with Section 10.2 and Landlord terminates the First Refusal Amendment pursuant to Section 10.2(G) above, and (iii) Landlord does not, concurrent with the delivery of any such termination notice, offer to accommodate Tenant's expansion requirement in other buildings owned by Landlord or affiliates of Landlord in the Boston West Suburban Market on terms generally comparable to those contained in the Expansion Amendment or the First Refusal Amendment, as applicable, then Tenant shall have the right to terminate the Term of the Lease effective as of the expiration of the Original Term (as though the Term had not been extended for the Black-out Extension Period) provided (y) Tenant exercises such termination right by written notice delivered to Landlord not less than fifteen (15) months prior to the expiration of the Original Term, and (z) Tenant delivers a copy of a fully-executed lease with another landlord in the Boston West Suburban Market for premises which will contain square footage not less than the Rentable Area of the Premises plus the rentable area of the space which was to be leased by Tenant pursuant to the Expansion Amendment or First Refusal Amendment, as applicable, not less than twelve (12) months prior to the expiration of the Original Term. Tenant's failure to comply with the foregoing condition within the time periods set forth above shall be deemed a waiver of Tenant's right to terminate the Term as of the expiration of the Original Term pursuant to this Section 10.3.

10.4 Temporary Loading Dock. To the extent the Premises are being expanded pursuant to this Article X in a manner which would eliminate, or materially impair the ability of Tenant to use, the loading dock serving the Building, Tenant shall have the right to install a flush-mount loading dock lift at the secondary entrance to the Building (Employee Entrance) (the "Temporary Loading Dock"), at Tenant's expense, subject to (i) Landlord's consent as to design and method of installation, which consent shall not be unreasonably withheld, conditioned or delayed, and (ii) compliance with applicable Legal Requirements. After completion of the expansion, Landlord shall have the right to require Tenant to remove the Temporary Loading Dock and restore the area disturbed thereby to substantially the same condition which existed prior to installation of the Temporary Loading Dock.

10.5 Rights Personal to Tenant. The rights created by this Article X shall be personal to the Original Tenant and any Permitted Transferee under this Lease and shall not apply in favor of or be exercisable by any assignee of this Lease (other than a Permitted Transferee), nor any sublessee of all or any portion of the Premises.

[signatures on next page]

EXECUTED in two or more counterparts each of which shall be deemed to be an original.

WITNESS:

/s/ Stacey Baker

LANDLORD:

BP 17 HARTWELL LLC, a Delaware limited liability company

By: Boston Properties, Inc.
Its General Partner

By: /s/ David Provost
Name: David Provost
Title: SVP

WITNESS:

/s/ Lisa A. Davidson

TENANT:

FRACTYL LABORATORIES, INC., a Delaware corporation

By: /s/ Harith Rajagopalan
Name: Harith Rajagopalan
Title: CEO
Hereunto duly authorized

EXECUTED in two or more counterparts each of which shall be deemed to be an original.

WITNESS:

LANDLORD:

BP 17 HARTWELL LLC, a Delaware limited liability company

By: Boston Properties, Inc.
Its General Partner

By: _____
Name:
Title:

WITNESS:

TENANT:

FRACTYL LABORATORIES, INC., a Delaware corporation

By: _____
Name: _____
Title: _____
Hereunto duly authorized

EXHIBIT A

DESCRIPTION OF SITE

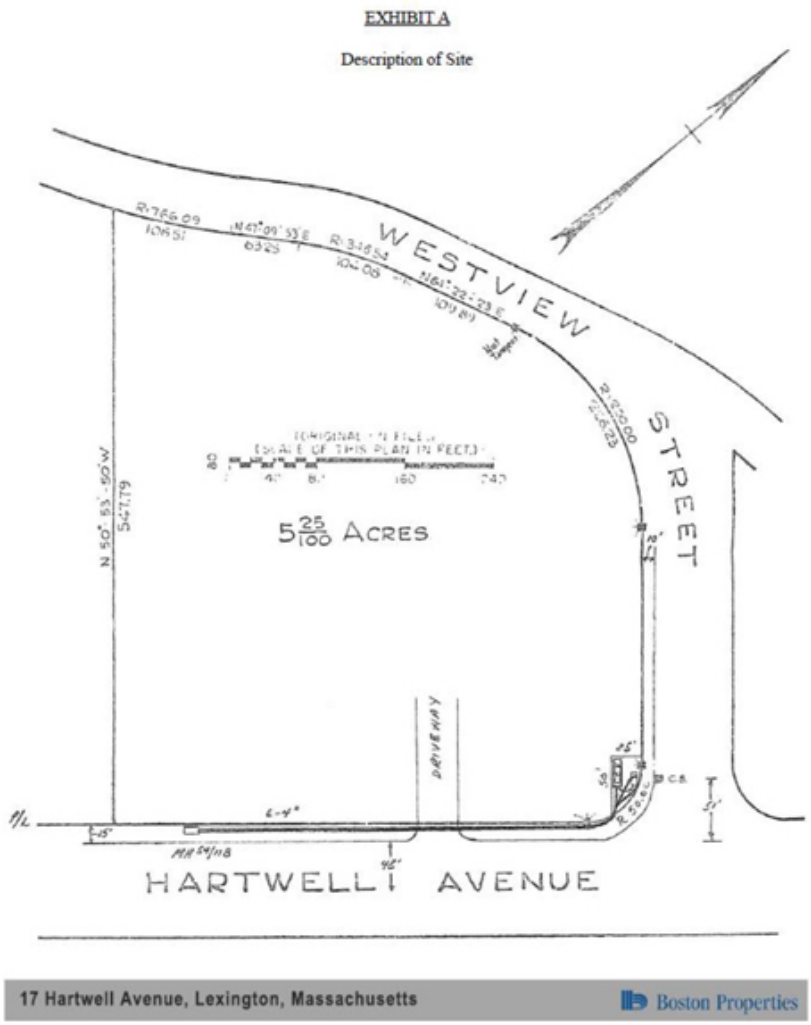

EXHIBIT B-1

WORK AGREEMENT

All capitalized terms used herein and not otherwise defined shall have the meaning ascribed to said terms in the Lease to which this Exhibit B-1 is attached. This Work Agreement is expressly subject to the provisions of the Lease, and in the event of any conflict between this Work Agreement and the Lease, this Work Agreement shall control.

1.0 LANDLORD'S WORK

A. Subject to the provisions of this Exhibit B-1, Landlord, at Landlord's sole cost and expense, shall obtain all permits and approvals necessary in connection with, and perform, the base building work ("**Landlord's Work**") as defined in the Base Building Specifications ("**Base Building Specifications**") attached hereto as Exhibit B-2. Subject to delays due to Force Majeure (as defined in Section 6.1 of the Lease) or attributable to a Tenant Delay (as hereinafter defined), Landlord shall use reasonable efforts to substantially complete (as defined below) the Landlord's Work (other than the Remaining Landlord's Work (as defined below)) by the Estimated Commencement Date, but Tenant shall have no claim against Landlord for failure so to complete construction of Landlord's Work, except as expressly set forth in Section 1.1 below. Landlord shall have the right to immediately cease performance of the Landlord's Work if an Event of Default occurs for so long as the same remains uncured. Landlord shall promptly apply for and obtain all permits and approvals required for Landlord's Work and promptly thereafter commence Landlord's Work and diligently prosecute the same to substantial completion, subject only to Force Majeure and Tenant Delay. Landlord's Work shall be performed in a good and workmanlike manner substantially in accordance with the Base Building Specifications and in accordance with all applicable Legal Requirements. Landlord shall not materially modify or materially vary from the Base Building Specifications without Tenant's prior written consent in each instance, which consent shall not be unreasonably withheld, conditioned or delayed. Landlord's tentative schedule for the performance of Landlord's Work is attached hereto as Exhibit I. Landlord shall keep Tenant reasonably informed of the status of Landlord's Work.

B. The "**Tenant Access Date**" shall be defined as the date that Landlord's Work is sufficiently complete so as to make the Building watertight as reasonably determined by Landlord by written notice to Tenant. Landlord shall provide Tenant with not less than twenty (20) days prior written notice of the anticipated Tenant Access Date. To the extent the Tenant Access Date has not occurred by January 1, 2016, then for each day thereafter until the Tenant Access Date occurs, the Rent Commencement Date shall be extended by one (1) day, but (i) only to the extent Tenant is actually delayed in the performance of the Tenant's Work as a result thereof, and (ii) notwithstanding the foregoing, in no event shall the Rent Commencement Date be extended by more than the number of days after May 1, 2016 that Tenant's Work is not substantially complete. By way of example, if the Access Date occurs on January 15, 2016, but Tenant is only actually delayed in the performance of the Tenant's Work as a result thereof by five (5) days, then the Rent Commencement Date shall only be delayed by the lesser of (A) five (5) days, and (B) the number of days after May 1, 2016 that Tenant's Work is not substantially complete.

C. The "**Actual Substantial Completion Date**" shall mean the date on which the Landlord's Work (other than the Remaining Landlord's Work (as defined below)) is substantially completed, as hereinafter defined, such that Tenant may, subject to completion of Tenant's Work and installation of Tenant's furniture, fixtures and equipment, and obtaining a certificate of occupancy, lawfully use and occupy the Premises (collectively, the **"Substantial Completion Conditions")**.

D. The "**Substantial Completion Date**" shall be the "**Actual Substantial Completion Date**," unless Landlord's Work is actually delayed by Tenant Delays, as hereinafter defined, in which event the "**Substantial Completion Date**" shall be the date that the Actual Substantial Completion Date would have occurred but for such Tenant Delays. Landlord shall provide Tenant with not less than seven (7) days prior written notice of the anticipated Actual Substantial Completion Date.

E. The terms "**substantially complete**," "**substantially completed**" and "**substantial completion**" shall mean that the Landlord's Work has been completed, except for (i) the Punch List Items, and (ii) those items noted in the Base Building Specifications for later performance and/or completion by Landlord (the "**Remaining Landlord's Work**"). "**Punch List Items**" shall be defined as minor, punch list-type items of work and adjustment of equipment and fixtures that can be completed after Tenant commences the performance of Tenant's Work or after its occupancy of the Premises without causing material interference with the performance of Tenant's Work or Tenant's use and occupancy (as applicable). Landlord shall complete, as soon as conditions practically permit, all Punch List Items and the Remaining Landlord's Work. Without limiting the generality of the foregoing, the completion of any Punch List Items in the clean room manufacturing space in the Premises after Tenant has commenced business operations in the Premises shall be performed during non-business hours of Tenant. Landlord shall use diligent efforts to complete all Punch List Items within sixty (60) days after the Substantial Completion Date (except for long lead items and items which can only be performed during certain seasons or weather, which items shall be completed diligently as soon as the season and/or weather permits, but only to the extent completion of the same can be so delayed without materially adversely affecting Tenant's Work or the obtaining of a certificate of occupancy), and Tenant shall reasonably cooperate with Landlord in providing reasonable access as may be required to complete such work in a normal manner. Tenant agrees to reasonably cooperate with Landlord to obtain approval of the Landlord's Work by the Lexington Inspectional Services Department following the substantial completion of the Landlord's Work.

F. Subject to the terms and conditions of this Work Agreement, Tenant and Tenant's contractors and vendors shall have reasonable access to the Premises from and after the Tenant Access Date to perform Tenant's Work. Landlord and Tenant acknowledge that, after the Tenant Access Date, remaining components of the Landlord's Work in the Premises and the Building and the Tenant's Work in the Premises will be performed simultaneously and accordingly Landlord and Tenant agree to work cooperatively in order to coordinate the performance of the Landlord's Work and the Tenant's Work so that neither party unreasonably interferes with or delays the efforts of the other to complete its respective portion of the work within the time periods set forth herein. Accordingly, Landlord and Tenant agree to reasonably cooperate with each other in good faith so that Tenant and Landlord and their respective contractors, subcontractors, project managers and vendors will have ongoing access to and through the Premises in order to perform Tenant's Work and Landlord's Work in as expeditious and efficient a manner as possible, and so as to minimize any interference in the performance by the other party's work, provided, however, such reasonable cooperation shall not require Landlord to perform any of Landlord's Work after hours or on an overtime or premium pay basis, except to the extent that the timing of completion thereof may materially interfere with Tenant's use and occupancy or delay completion of Tenant's Work or Tenant obtaining a certificate of occupancy for the Premises.

G. A "**Tenant Delay**" shall be defined as any actual delay in the commencement, progress or substantial completion of any elements of the Landlord's Work caused by, or arising out of, the following (provided that in each instance Landlord has first given Tenant a Tenant Delay Notice to the extent required below): (i) the default of Tenant, or Tenant's agents, employees or contractors under the Lease, including this Work Agreement, or (ii) the failure of Tenant or Tenant's Architect to make any submission or to respond to any written submission to Tenant from Landlord or to take any required action within the time periods for such submission, response or action as set forth in the Lease and/or this Work Agreement, including, without limitation, Tenant's failure to deliver any submission set of the Tenant's Plans meeting the requirements of Exhibit B-3; or (iii) Tenant Change Orders made by Tenant in accordance with Section 1.2 below; or (iv) any delays resulting from Tenant or any of Tenant's contractors not complying with the rules and regulations for the performance of Tenant's Work in the Building; or (v) any other actual delays caused by the acts or, where there is a duty of Tenant to act under the Lease or this Work Agreement, omissions by Tenant, Tenant's contractors, architects, engineers or anyone else engaged by, through or under Tenant in connection with the preparation of the Premises for Tenant's occupancy, including, without limitation, utility companies and other entities furnishing communications, data processing or other service, equipment, or furniture. As set forth in Section 1.2, Landlord shall, to the extent possible, advise Tenant at the time of approval of such Change Order of the estimated length of such delay and Tenant shall have the right, within three (3) business days after Landlord advises Tenant thereof, to withdraw or modify the Change Order so as to avoid the delay. Tenant agrees that no Tenant Delay shall delay commencement of the Term or the obligation to pay Annual Fixed Rent or Additional Rent, regardless of the reason for such Tenant Delay or whether or not it is within the control of Tenant or any such employee. Tenant shall reimburse Landlord for the reasonable amount by which the Landlord's Work is increased as the result of any Tenant Delay within thirty (30) days of billing therefor, and such amounts shall be considered to be Additional Rent.

With respect to any Tenant Delay claimed by Landlord, Landlord agrees to provide Tenant with written notice (a "Tenant Delay Notice") advising Tenant that such Tenant Delay is occurring and setting forth Landlord's good faith estimate as to the likely length of such Tenant Delay within a reasonable period of time after Landlord becomes aware of such Tenant Delay, provided, however, that Landlord will not have any obligation to deliver any Tenant Delay Notice to Tenant with respect to (1) any Tenant Delay which is based upon Tenant's failure to act within a time certain which is expressly set forth in this Work Agreement, or (2) any other Tenant Delay that Landlord has previously disclosed to Tenant or Tenant is otherwise aware of, such as, by way of example only, the Tenant Delay that Landlord disclosed to Tenant in connection with Landlord's review and approval of a Tenant Change Order.Notwithstanding anything herein or in this Lease to the contrary, Landlord may satisfy the Tenant Delay Notice requirement by email notification to Tenant's Construction Representative.

1.1 OUTSIDE COMPLETION DATE

If Landlord shall have failed substantially to complete the Landlord's Work on or before the Outside Completion Date as defined in Section 1.1 of the Lease (which date shall be extended automatically for such periods of time as Landlord is prevented from proceeding with or completing the same by reason of Force Majeure or Tenant Delay), Tenant shall have the right to terminate the Lease by giving notice to Landlord of Tenant's desire to do so before such completion and within the time period from the Outside Completion Date (as so extended) until the date which is thirty (30) days subsequent to the Outside Completion Date (as so extended); and, upon the giving of such notice, the term of the Lease shall cease and come to an end without further liability or obligation on the part of either party unless, within thirty (30) days after receipt of such notice, Landlord substantially completes the Landlord's Work; and such right of termination shall be Tenant's sole and exclusive remedy for Landlord's failure so to complete such work within such time. Each day of Tenant Delay shall be deemed conclusively to cause an equivalent day of delay by Landlord in substantially completing the work to be done by Landlord pursuant to Section 1 of this Work Agreement, and thereby automatically extend for each such equivalent day of delay the date of the Outside Completion Date.

1.2 TENANT'S RIGHT TO REQUEST CHANGES TO LANDLORD'S WORK

If Tenant's design of Tenant's Work includes any features, attributes, materials or specifications that will require changes or additions to the Landlord's Work, Tenant may request changes in writing ("**Tenant Change Orders**") in the Landlord's Work to accommodate Tenant's interior space design, subject to the request being sent to Landlord prior to December 1, 2015 (time being of the essence). In the event that Tenant proposes any Tenant Change Orders or Tenant's Plans (as hereinafter defined) contain any Tenant Change Orders pursuant to the foregoing, Landlord shall, within ten (10) business days (or other such time depending upon the magnitude of the change) of such request, provide Tenant with a statement of the reasonable out of pocket additional costs to be incurred by Landlord (after taking into account any cost savings that results from the Tenant Change Order) to implement the change in Landlord's Work as a result of such change and the amount of delay, if any, that Landlord estimates will result in the completion of Landlord's Work as a result of such change ("**Landlord's Change Estimate Notice**"). Landlord shall have the right to withhold approval of any such Tenant Change Orders unless Tenant agrees to pay the reasonable costs incurred to redesign the plans for Landlord's Work and to perform any of the changes or additions to the Landlord's Work and Landlord and Tenant agree upon the Tenant Delay that will result from the re-design and implementation of such Tenant Change Orders. Tenant shall be charged a construction management fee payable to Landlord equal to three (3%) percent of the cost of such Tenant Change Order. Landlord shall not unreasonably withhold its consent to any Tenant Change Order requested by Tenant, so long as: (i) Tenant pays, via a deduction from the Landlord's Contribution as set forth hereinbelow, all additional costs specified by Landlord in Landlord's Change Estimate Notice as such costs are incurred, (ii) the change is consistent with the governmental agreements and approvals for the Building, (iii) the change is consistent with design standards for comparable office buildings in the market where the Building is located and does not have a material adverse effect on the value of the Building or the Site, and (iv) Tenant notifies Landlord within ten (10) business days after receiving Landlord's Change Estimate Notice that Tenant authorizes Landlord to make such change and Tenant agrees that any delay in the performance of Landlord's Work arising from such change is a Tenant Delay. Landlord shall have no obligation to make any changes to the Landlord's Work except in accordance with this Section 1.2. Notwithstanding anything in the Lease or this Work Agreement to the contrary, the costs of any Tenant Change Orders (after taking into account any cost savings that results from the Tenant Change Order) may be deducted by Landlord from the Landlord's Contribution, and, if the Landlord's Contribution is not sufficient to pay in full the total costs of the applicable Tenant Change Order, Tenant shall pay any deficiency to Landlord, as Additional Rent, within fifteen (15) days of billing.

1.3 LANDLORD'S WARRANTY

Except to the extent to which Tenant shall have given Landlord notice of respects in which Landlord has not properly performed Landlord's Work under this Work Agreement (or any incomplete items of Landlord's Work or any defects or deficiencies therewith) not later than the date eleven (11) months from the Commencement Date, Tenant shall be deemed conclusively to have approved Landlord's construction and shall have no claim that Landlord has failed to perform any of Landlord's obligations under this Work Agreement. Landlord agrees to correct or repair, at its expense, any items of Landlord's Work which are incomplete or do not conform to the work contemplated under the Base Building Specifications and as to which, in either case, Tenant shall have given notice to Landlord, as aforesaid.

2.0 TENANT'S WORK

From and after the Tenant Access Date, Tenant, at its sole cost and expense (except for Landlord's Contribution, as hereinafter set forth), shall perform all work necessary to prepare the Premises for Tenant's occupancy ("**Tenant's Work**") in accordance with plans and specifications prepared by the Approved Tenant Architect or another architect, licensed by the Commonwealth of Massachusetts and approved by Landlord (which approval shall not be unreasonably withheld, conditioned, or delayed) (the "**Tenant's Architect**"), such plans and specifications to be subject to the approval of the Landlord as set forth in Section 2.0(B) below. Tenant's Work shall be performed in accordance with the provisions of the Lease (including, without limitation, Article 5 and this Exhibit B-1); provided, however, that in the event of any conflict or inconsistency between any provision of the Lease (including, without limitation, Article 5) and this Exhibit B-1, the provisions of this Exhibit B-1 shall govern and control with respect to Tenant's Work.

(A) Tenant's Architect and Contractor. Tenant shall engage Tenant's Architect to prepare the Plans (as defined below) for Tenant's Work. Landlord approves the Tenant's Approved Project Manager as Tenant's project manager. Landlord approves J. Calnan & Associates, Inc., Erland Construction, Bowdoin Construction Corp. and Chapman Construction/Design ("**Approved Contractors**") as Tenant's contractor for Tenant's Work. Tenant may select one of the Approved Contractors as Tenant's contractor for Tenant's Work and Tenant shall promptly notify Landlord thereof, or another firm approved by Landlord as Tenant's contractor for Tenant's Work, which approval shall not be unreasonably withheld, conditioned or delayed, and the firm so selected shall be "Tenant's Approved Contractor" for purposes of this Lease. Tenant shall engage Tenant's Approved Contractor (or another contractor(s) licensed by the Commonwealth of Massachusetts approved by Landlord (which approval shall not be unreasonably withheld, conditioned, or delayed) to perform Tenant's Work, provided, however, Tenant shall use J.M. Brown [Landlord's designated contractor] for such systems as fire alarm and building controls, provided such designated contractor will perform the applicable elements of Tenant's Work at prices which are reasonably competitive with those of qualified first-quality contractors (union or non-union) providing such services in the Boston West Suburban Market. Tenant's subcontractors shall be licensed by the Commonwealth of Massachusetts and Tenant's major subcontractors (i.e. those trades with contracts in excess of $50,000) shall be subject to prior approval by Landlord (which approval shall not be unreasonably withheld, conditioned, or delayed).

(B) Tenant's Plans. Tenant shall submit to Landlord, no later than the Tenant Plans Date, a detailed floor plan layout together with working drawings (the "**Tenant's Submission**") for Tenant's Work. Such floor plan layout and working drawings (the "**Plans**") shall contain at least the information required by, and shall conform to the requirements of, Exhibit B-3. Provided that the Plans contain at least the information required by, and conform to the requirements of, said Exhibit B-3, Landlord's approval of the Plans shall not be unreasonably withheld, conditioned or delayed and shall be conclusively deemed granted unless Landlord reasonably disapproves thereof in writing within fifteen (15) days of Landlord's receipt thereof; however, Landlord's determination of matters which may impact the structure of the Building shall be in Landlord's sole discretion. If Landlord disapproves of any Plans, Landlord shall so notify Tenant within fifteen (15) days of Landlord's receipt thereof, and Tenant shall have the Plans revised by Tenant's Architect to incorporate all objections and conditions presented by Landlord and shall resubmit such revised Plans to Landlord and Landlord shall be conclusively deemed to have approved the same and shall be conclusively deemed granted unless Landlord reasonably disapproves thereof in writing within seven (7) days of Landlord's receipt thereof (or any subsequent set of comments/revisions). Such process shall be followed until the Plans shall have been approved by the Landlord without unreasonable objection or condition.If for any reason Tenant desires to materially modify or amend the Plans, or to vary therefrom in any material respect, Tenant shall so notify Landlord and submit any such material modification, to Landlord for Landlord's review and approval, which approval shall not be unreasonably withheld, delayed or conditioned, and shall be conclusively deemed granted if Landlord does not notify Tenant in writing of its disapproval of the same within seven (7) days following Landlord's receipt thereof. The Plans so approved by Landlord shall be referred to herein as the "**Approved Plans**".

(C) Performance of Tenant's Work. Once Tenant's Plans have been approved by Landlord, Tenant, at its sole cost and expense (subject to Landlord's Contribution), shall promptly commence and with all due diligence perform Tenant's Work as set forth on the Approved Plans, and, in connection therewith, the Tenant shall obtain all necessary governmental permits and approvals for Tenant's Work. Landlord shall reasonably cooperate at no expense to Landlord with Tenant in obtaining any such permits or approvals. All of Tenant's Work shall be performed in accordance with the Approved Plans and in accordance with applicable Legal Requirements and Insurance Requirements and in such manner as to maintain harmonious labor relations. Tenant shall require that its contractors provide to Landlord such insurance as is required by the Lease. In the event that Tenant's use of any contractors for the performance of Tenant's Work results in any labor disharmony that actually delays substantial completion of the Landlord's Work, it shall constitute a Tenant Delay. Provided a written set of the same are delivered to Tenant prior to the commencement of Tenant's Work and any other work which the Tenant may perform under the Lease, Landlord shall have the right to provide such reasonable rules and regulations relative to the performance of the same and Tenant shall abide by the same and shall cause all of its contractors to so abide. Tenant's Work shall be deemed substantially completed when Tenant's Work has been completed in accordance with the Approved Plans, as certified by Tenant's Architect, subject only to so-called "Tenant Punch-List Items" "Tenant Punch-List Items" shall be defined as minor, punch list-type items of work and adjustment of equipment and fixtures that can be completed after Tenant's occupancy of the Premises without, in the aggregate, causing material interference with Tenant's use and occupancy. Landlord agrees to reasonably cooperate at no expense to Landlord with Tenant to obtain a final certificate of occupancy for the Premises and Tenant's Work, following the substantial completion of the Tenant's Work and installation of Tenant's furniture, fixtures and equipment in the Premises.

(D) Quality of Tenant's Work. All construction work required or permitted by the Lease shall be done in a good and workmanlike manner and in compliance with all applicable laws, ordinances, rules, regulations, statutes, by-laws, court decisions, and orders and requirements of all public authorities ("**Legal Requirements**") and all Insurance Requirements (as defined in Section 5.12 of the Lease). All of Tenant's work shall be coordinated with any work being performed by or for Landlord and in such manner as to maintain harmonious labor relations. Each party may inspect the work of the other at reasonable times and shall promptly give notice of observed defects; however, nothing contained herein shall be deemed to adversely affect Tenant's rights under Section 1.3. Each party authorizes the other to rely in connection with any matters related to this Exhibit B-2 upon approval and other actions on the party's behalf by the Construction Representative of the party named in Section 1.1 of the Lease, or any person hereafter designated in substitution or addition by notice to the party relying. Tenant shall also prepare and submit to Landlord promptly after Tenant's Work is substantially complete a set of operations and maintenance manuals and as-built plans in both print and electronic (pdf and Autocad) forms showing Tenant's Work. Tenant shall pay to Landlord, as Additional Rent, all reasonable third party expenses incurred by Landlord to review Tenant's Plans and Tenant's Work.

(E) Tenant Deliveries prior to Occupancy. Except as otherwise expressly provided in this Section 2.0(E), prior to occupying the Premises, or any portion thereof for the operation of Tenant's business, it shall be Tenant's obligation to obtain and deliver to Landlord the following ("**Occupancy Conditions**"):

(1) a certificate of occupancy or other like governmental approval or sign offs authorizing the use and occupancy of the Premises to the extent required by law (it being agreed that Landlord shall reasonably cooperate with Tenant in obtaining the same at no cost to Landlord as provided above);

(2) waivers of lien from all of Tenant's contractors and subcontractors in form adequate for recording purposes in the forms attached as Exhibit F to the Lease ("**Lien Waivers**");

(3) a set of record plans in both print and electronic (pdf and Autocad) forms showing the work performed by Tenant to the Premises which shall be delivered to Landlord within thirty (30) days following Tenant's occupancy of the Premises; and

(4) an executed Declaration Affixing the Commencement Date of Lease in the form annexed to the Lease as Exhibit E.

3.0 LANDLORD'S CONTRIBUTION

Landlord shall provide to Tenant a special allowance equal to $3,000,000 (the "**Landlord's Contribution**"). The Landlord's Contribution shall be used and applied by Tenant solely on account of the cost of Tenant's Work; provided however that the maximum amount of Landlord's Contribution which may be requisitioned and used by Tenant to pay for Soft Costs shall not exceed $300,000 (the "**Soft Costs Cap**"). Provided that (i) Tenant has completed and paid for all of Tenant's Work in accordance with the terms of the Lease, (ii) Tenant has delivered the items required under Section 2.0(E) above, (iii) Tenant has delivered to Landlord its certificate specifying the cost of such Tenant's Work and all contractors, subcontractors and suppliers involved with Tenant's Work, together with evidence of such cost in the form of paid invoices, receipts and the like, (iv) Tenant has satisfied the requirements of (i) through (iii) above and made request for such payment on or before the date that is the first anniversary of the Commencement Date, (v) no Event of Default exists under the Lease, and (vi) there are no liens (unless bonded to the reasonable satisfaction of Landlord) against Tenant's interest in the Lease or against the Building or the Site arising out of Tenant's Work or any litigation in which Tenant is a party, then within thirty (30) days after the satisfaction of the foregoing conditions, the Landlord shall pay to the Tenant the lesser of the amount of such costs so certified or the amount of the Landlord's Contribution (after taking into account any disbursement of Landlord's Contribution made pursuant to the following sentence). Notwithstanding the foregoing, Landlord will disburse up to fifty percent (50%) of Landlord's Contribution when Tenant's Approved Architect certifies to Landlord that Tenant's Work is at least fifty percent (50%) complete based upon a schedule of values submitted by Tenant's Architect to Landlord prior to commencement of Tenant's Work, provided however that such disbursement shall be (i) limited to the costs of the Tenant's Work paid for by Tenant through the date of such request for disbursement, as evidenced by paid invoices from Tenant's contractors, subcontractors and suppliers, and (ii) conditioned upon (A) delivery of Lien Waivers for all of Tenant's Work for which disbursement of such portion of Landlord's Contribution is requested, (B) no Event of Default exists under the Lease, and (C) there are no liens (unless bonded to the reasonable satisfaction of Landlord) against Tenant's interest in the Lease or against the Building or the Site arising out of Tenant's Work or any litigation in which Tenant is a party. Notwithstanding the foregoing, Landlord shall be under no obligation to apply any portion of the Landlord's Contribution for any purposes other than as provided in this Section 3.0, nor shall Landlord be deemed to have assumed any obligations, in whole or in part, of Tenant to any contractors, subcontractors, suppliers, workers or materialmen. Further, the Landlord's Contribution shall only be applied towards the cost of leasehold improvements and in no event shall Landlord be required to make application of any portion of the Landlord's Contribution towards Tenant's personal property, trade fixtures or moving expenses or on account of any supervisory fees, overhead, management fees or other payments to Tenant, or any partner or affiliate of Tenant or any other Soft Costs above the Soft Costs Cap. In the event that such cost of Tenant's Work is less than the Landlord's Contribution, Tenant shall not be entitled to any payment or credit nor shall there be any application of the same toward Annual Fixed Rent or Additional Rent owed by Tenant under the Lease; however, if for any reason Tenant does not use the entire Landlord's Contribution as provided above towards Tenant's Work, Tenant shall have the right to use up to a $600,000 portion of Landlord's Contribution towards alterations made to the Premises subject to Landlord's consent pursuant to Section 5.12 of the Lease provided request for disbursement is made within thirty-six (36) months of the Rent Commencement Date and Tenant complies with the all disbursement conditions applicable to Landlord's Contribution set forth above. Landlord shall be entitled to deduct from the Landlord's Contribution reasonable third party expenses incurred by Landlord to review Tenant's Plans and Tenant's Work. For purposes of this Exhibit B-1, the term "**Soft Costs**" shall mean the costs incurred by Tenant in connection with the preparation of Tenant's Plans, inclusive of architectural, engineering and other design fees, project management fees payable by Tenant to Tenant's construction manager, and permitting fees of Tenant's Work

EXHIBIT B-2

LANDLORD'S WORK

BASE BUILDING SCOPE – 17 HARTWELL AVENUE

1. PROJECT DESCRIPTION

A single story office building with on-grade parking.

2. SITE AND LANDSCAPING IMPROVEMENTS

a. The existing surface parking lot will be resurfaced and restriped to accommodate a minimum parking ratio of 3.30/1,000sf.

b. Sidewalk and hardscape upgrades to include vertical granite curbing, new concrete paving on the sidewalks and the primary and secondary entrance landing areas. The primary and secondary entrances will be ADA accessible in accordance with State Building Code.

c. Site lighting comprising LED luminaires will be installed throughout the parking area.

d. Existing lawn areas will be overseeded with a drought tolerant turfgrass mix and flower beds planted with a combination of ornamental grass, perennials and shrubs. An irrigation system will be installed to provide adequate moisture to the lawn and planting areas, and a 24" wide river stone drip edge laid between the building perimeter and planting areas (the completion of plantings and lawn work will be weather permitting and subject to seasonal constraints).

e. Additional sitework will include:

   i. Removal of storage sheds at the rear of the site.

   ii. Removal of existing pine trees located within close proximity to the building.

f. Installation of a new patio off the back of the building using concrete unit pavers. This is not to exceed 600 square feet.

g. Installation of a new bike rack that will hold up to 10 bicycles.

3. BASE BUILDING IMPROVEMENTS

A. The structure consists of a steel frame with concrete block at the permimeter. Floor to floor heights will allow for a typical suspended ceiling height of approximately 9'4" A.F.F. The structure will accommodate the following live loads:

   i. Wind and seismic load in accordance with State Building code

   ii. Floor live load 150lbs (including partition)

B. The existing roof system is an EPDM roof that was installed in 2008 with a 15 year warranty carried by Carlisle Roofing Systems, Inc. Additional roof work will be carried out as necessary to install base building mechanical systems, including roof top dunnage and walking pads to support and access base building equipment.

C. The existing exterior wall system is brick with punched windows. A combination of new and enlarged windows will be supported in an aluminum-framed system with clear glass as presented in elevations prepared by Landlord's architect and designed in accordance with State Building Code. Installation of a new, aluminum curtain wall system located at the southeast corner of the building. This will feature a glass entry vestibule.

D. Replace existing exterior door on the Hartwell Avenue facing façade, and install new doors for direct access at the primary and secondary building entrances and to the new patio area.

E. Interior side of exterior walls will be finished with 5/8" drywall, floor to ceiling, and prepared to receive paint. Interior core drywall surfaces will be 5/8" drywall prepared to receive paint. Door frames will be 16 gage hollow metal.

F. The existing bathrooms located in the rear of the building will be renovated to include new ceramic tile flooring, countertops, sinks, toilet fixtures and stalls and a prefabricated shower cubicle in each bathroom. Wet walls will be finished with 7' high ceramic tile, while all other walls will be painted drywall. In addition, a new ADA accessible toilet and shower cubilcle will be installed in each bathroom. Metal toilet enclosures will be floor mounted and of steel panel construction with baked enamel or stainless steel finish. The proposed bathrooms will be built in accordance with State Building Code.

The restrooms located at the front of the building will remain as-is, except that if the Tenant determines that they are not going to relocate the front bathrooms, the Landlord will refurbish them to include professional cleaning, new coat of paint and new lighting. All fixtures will be inspected for performance.

G. PLUMBING:

i. Domestic water system will be supplied by metered service from a public water main. Water piping will be Type L copper tubing; hot water piping will be insulated. An electric domestic water heater will serve the toilet cores to provide hot water to the bathrooms.

ii. Sanitary system will drain to public sewer, and will serve all fixtures and equipment. All new sanitary piping will be no hub cast iron.

iii. Plumbing fixtures will be as manufactured by American Standard, Kohler, Crane, or equal.

iv. The building have one drinking fountain, specified for lead-free fabrication, compliant with ADA accessibility guidelines.

v. Two frost-free hose bibs will be provided as required for exterior maintenance.

H. FIRE PROTECTION SYSTEM:

i. Fire standpipes will be supplied from a public water main with operating pressure augmented by pressure boosting equipment, if required. All piping, valves and equipment will be Underwriters' Laboratories approved and labeled. Tamper switches will be provided on all main control valves.

ii. Automatic sprinkler system will be supplied from a public water main. The system will be designed so that all occupied space in the building will be fully sprinklered at a head density in accordance with ordinary hazard occupancy. The Base Building provides distribution piping and sprinkler heads for common areas such as mechanical rooms, toilets, etc.

iii. Alarm and detection system are described under Section J, Electrical.

I. HVAC:

i. The operating criteria of the base building HVAC system shall not be less than the following:

1. Cooling season indoor temperature of not in excess of 73-79ºF when outdoor temperature is 91ºF ambient.

2. Heating season minimum room temperature of 68-75ºF when outdoor temperature is 6ºF ambient.

ii. The following describes the HVAC system:

a. Factory fabricated, rooftop packaged dx split system, air cooled, variable air volume (VAV) units. Utilize ceiling cavity on occupied levels as return air plenum.

b. Variable air volume controls with fan powered VAV boxes with hot water coils at the perimeter and VAV fan powered boxes without coils for interior zones.

c. Hot water heating system shall consist of two central gas fired hot water boilers. Building heating hot water is then circulated throughout the building via variable speed pumps.

J. ELECTRICAL:

i. A new 1,000 amp KVA transformer will be installed and base building electrical systems will be designed in accordance with the following anticipated loads:

a. Lighting power requirements will be calculated on the basis of approximately 1.0 watts per square foot of building area.

b. Tenant convenience outlet power requirements will be calculated on the basis of approximately 5.0 watts per square foot of building area.

c. Additional power requirements are capped at approximately 9.0 watts per square foot of building area.

ii. The automatic fire detection and alarm system will be supervised by a central monitoring system, connected to the Fire Department, and provided with a battery backup. All devices connected to the fire alarm system (fire command station, manual alarm stations, alarm indicators, automatic smoke and heat detectors, fan control relays, etc.) will be Underwriters' Laboratories rated, and the system will comply with all requirements of the NFPA, ADA, and all other applicable codes. Activation of a manual alarm station or an automatic detection device (waterflow switches, smoke detectors, etc.) will:

a. Transmit the alarm to the Municipal Fire Station via the central station monitoring service.

b. Sound a code 3 temporal general evacuation signal throughout the building.

c. Flash all visual signals throughout the building in a synchronized manner.

d. Flash an alarm LED and sound an audible signal at the FACP.

e. Upon Acknowledgment, the alarm LED will light steadily and the audible will silence. Subsequent alarms will re-initiate this sequence.

f. Activate outputs to release all electro-magnetically locked egress doors throughout the building.

g. Visually indicate the alarm initiating device type and location via the LCD display located at the FACP and remote LCD annunciators.

h. Automatically shut down HVAC functions, as required.

iii. Activate the outside weatherproof beacon Battery back-up failure or any disruption of the system wiring will sound an alarm at the system control panel.

K. A new, steel overhead door with controls will be installed in the loading dock area.

EXHIBIT B-3

TENANT PLAN AND WORKING DRAWING REQUIREMENTS

1. Floor plan indicating location of partitions and doors (details required of partition and door types).
2. Location of standard electrical convenience outlets and telephone outlets.
3. Location and details of special electrical outlets; (e.g. Xerox), including voltage, amperage, phase and NEMA configuration of outlets.
4. Reflected ceiling plan showing layout of standard ceiling and lighting fixtures. Partitions to be shown lightly with switches located indicating fixtures to be controlled.
5. Locations and details of special ceiling conditions, lighting fixtures, speakers, etc.
6. Location and heat load in BTU/Hr. of all special air conditioning and ventilating requirements and all necessary HVAC mechanical drawings.
7. Location and details of special structural requirements, e.g., slab penetrations and areas with floor loadings exceeding a live load of 150 lbs./s.f.
8. Locations and details of all plumbing fixtures; sinks, drinking fountains, etc.
9. Location and specifications of floor coverings, e.g., vinyl tile, carpet, ceramic tile, etc.
10. Details and specifications of special millwork, glass partitions, rolling doors and grilles.
11. Hardware schedule indicating door number keyed to plan, size, hardware required including butts, latchsets or locksets, closures, stops, and any special items such as thresholds, soundproofing, etc.

12. Verified dimensions of all built-in equipment (file cabinets, lockers, plan files, etc.).

13. Location of any special soundproofing requirements.

14. All drawings to be uniform size (30" X 42") and shall incorporate the standard project electrical and plumbing symbols and be at a scale of 1/8" = 1' or larger.

15. Drawing submittal shall include the appropriate quantity required to file for permit along with four half size sets and one full size set for Landlord's review and use.

16. Provide all other information necessary to obtain all permits and approvals for Tenant's Work.

17. Upon completion of the work, Tenant shall provide Landlord with two hard copies and one electronic CAD file of updated architectural and mechanical drawings to reflect all project sketches and changes.

EXHIBIT C

LANDLORD SERVICES

I. CLEANING

No cleaning or janitorial services shall be provided by Landlord except for the exterior washing of windows at a frequency necessary to maintain a first class appearance.

II. HVAC

Base building heating, ventilating and air conditioning equipment will be provided with sufficient capacity to accommodate a maximum population density of one (1) person per one hundred fifty (150) square feet of useable floor area served, and a combined lighting and standard electrical load of 4.5 watts per square foot of useable floor area. In the event Tenant introduces into the Premises personnel or equipment which overloads the system's ability to adequately perform its proper functions, Landlord shall so notify Tenant in writing and supplementary system(s) may be required and installed by Landlord at Tenant's expense, if within fifteen (15) days Tenant has not modified its use so as not to cause such overload.

Operating criteria of the basic system shall not be less than the following:

(i) Cooling season indoor temperature of not in excess of 73 - 79 degrees Fahrenheit when outdoor temperature is 91 degrees ambient.

(ii) Heating season minimum room temperature of 68 - 75 degrees Fahrenheit when outdoor temperature is 6 degrees Fahrenheit ambient.

III. ELECTRICAL SERVICES

A. Landlord shall provide electric power for a combined load of 15 watts per square foot of useable area for lighting and equipment.

B. Landlord will furnish and install, at Tenant's request and expense, all replacement lighting tubes, lamps and ballasts required by Tenant.

IV. WATER

Provide tempered water for lavatory purposes and cold water for drinking, lavatory and toilet purposes.

V. CARD ACCESS SYSTEM

Landlord will provide a card access system at the main entrance and employee entrance of the building, which system shall be expandable to enable Tenant to add the same card access system to other doors of the building.

EXHIBIT D

FLOOR PLAN

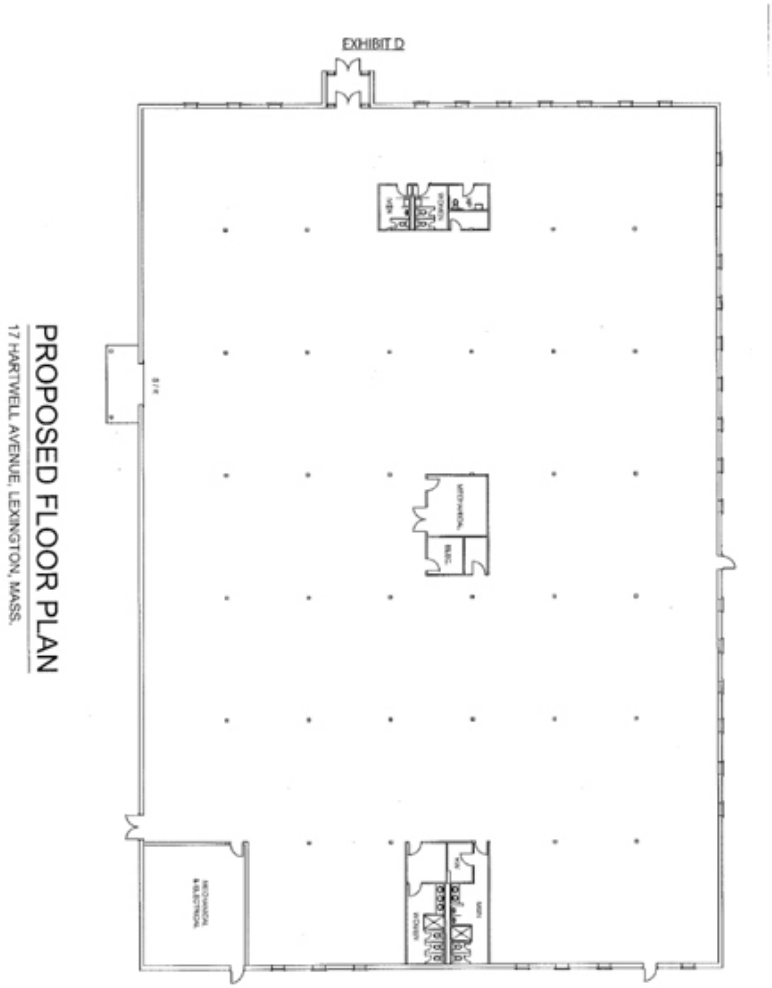

EXHIBIT E

FORM OF DECLARATION AFFIXING THE COMMENCEMENT DATE OF LEASE

THIS AGREEMENT made this____day of_____, 20___, by and between ***[LANDLORD]*** (hereinafter "Landlord") and ***[TENANT]*** (hereinafter "Tenant").

W I T N E S S E T H T H A T:

1. This Agreement is made pursuant to Section ***[2.4]*** of that certain Lease dated ***[date]***, between Landlord and Tenant (the "Lease").

2. It is hereby stipulated that the Lease Term commenced on ***[commencement date]***, (being the "Commencement Date" under the Lease), and shall end and expire on ***[expiration date]***, unless sooner terminated or extended, as provided for in the Lease.

WITNESS the execution hereof by persons hereunto duly authorized, the date first above written.

LANDLORD:

[INSERT LL SIGNATURE BLOCK]

By: _____
Name: _____
Title: _____

TENANT:

ATTEST:

[TENANT]

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____
Hereunto duly authorized

EXHIBIT F

FORMS OF LIEN WAIVERS

CONTRACTOR'S PARTIAL WAIVER AND SUBORDINATION OF LIEN

STATE OF _____ Date: _____

_____COUNTY Application for Payment No.: _____

OWNER: _____

CONTRACTOR: _____

LENDER / MORTGAGEE: _____

1. Original Contract Amount: $ _____
2. Approved Change Orders: $ _____
3. Adjusted Contract Amount: (line 1 plus line 2) $ _____
4. Completed to Date: $ _____
5. Less Retainage: $ _____
6. Total Payable to Date: (line 4 less line 5) $ _____
7. Less Previous Payments: $ _____
8. Current Amount Due: (line 6 less line 7) $ _____
9. Pending Change Orders: $ _____
10. Disputed Claims: $ _____

The undersigned who has a contract with _____ for furnishing labor or materials or both labor and materials or rental equipment, appliances or tools for the erection, alteration, repair or removal of a building or structure or other improvement of real property known and identified as located in _____ (city or town), _____County, _____ and owned by _____, upon receipt of _____ ($_____) in payment of an invoice/requisition/application for payment dated _____ does hereby:

(a) waive any and all liens and right of lien on such real property for labor or materials, or both labor and materials, or rental equipment, appliances or tools, performed or furnished through the following date _____ (payment period), except for retainage, unpaid agreed or pending change orders, and disputed claims as stated above;

(b) subordinate any and all liens and right of lien to secure payment for such unpaid, agreed or pending change orders and disputed claims, and such further labor or materials, or both labor and materials, or rental equipment, appliances or tools, except for retainage, performed or furnished at any time through the twenty-fifth day after the end of the above payment period, to the extent of the amount actually advanced by the above lender/mortgagee through such twenty-fifth day.

Signed under the penalties of perjury this _____ day of _____, 20__.

WITNESS:

_____

Name: _____
Title: _____

CONTRACTOR:

_____

Name: _____
Title: _____

SUBCONTRACTOR'S LIEN WAIVER

General Contractor:

Subcontractor:

Owner:

Project:

Total Amount Previously Paid: $ _____

Amount Paid This Date: $ _____

Retainage (Including This Payment) Held to Date: $ _____

In consideration of the receipt of the amount of payment set forth above and any and all past payments received from the Contractor in connection with the Project, the undersigned acknowledges and agrees that it has been paid all sums due for all labor, materials and/or equipment furnished by the undersigned to or in connection with the Project and the undersigned hereby releases, discharges, relinquishes and waives any and all claims, suits, liens and rights under any Notice of Identification, Notice of Contract or statement of account with respect to the Owner, the Project and/or against the Contractor on account of any labor, materials and/or equipment furnished through the date hereof.

The undersigned individual represents and warrants that he is the duly authorized representative of the undersigned, empowered and authorized to execute and deliver this document on behalf of the undersigned and that this document binds the undersigned to the extent that the payment referred to herein is received.

The undersigned represents and warrants that it has paid in full each and every sub-subcontractor, laborer and labor and/or material supplier with whom undersigned has dealt in connection with the Project and the undersigned agrees at its sole cost and expense to defend, indemnify and hold harmless the Contractor against any claims, demands, suits, disputes, damages, costs, expenses (including attorneys' fees), liens and/or claims of lien made by such sub-subcontractors, laborers and labor and/or material suppliers arising out of or in any way related to the Project.

Signed under the penalties of perjury as of this _____ day of _____, 20__.

SUBCONTRACTOR:

_____

Signature and Printed Name of
Individual Signing this Lien Waiver

WITNESS:

_____

_____

Name: _____
Title: _____

_____

Dated: _____

CONTRACTOR'S WAIVER OF CLAIMS AGAINST OWNER AND ACKNOWLEDGMENT OF FINAL PAYMENT

Commonwealth of Massachusetts Date: _____

COUNTY OF _____ Invoice No.: _____

OWNER: _____

CONTRACTOR: _____

PROJECT: _____

1.	Original Contract Amount:	$ _____
2.	Approved Change Orders:	$ _____
3.	Adjusted Contract Amount:	$ _____
4.	Sums Paid on Account of Contract Amount:	$ _____
5.	Less Final Payment Due:	$ _____

The undersigned being duly sworn hereby attests that when the Final Payment Due as set forth above is paid in full by Owner, such payment shall constitute payment in full for all labor, materials, equipment and work in place furnished by the undersigned in connection with the aforesaid contract and that no further payment is or will be due to the undersigned.

The undersigned hereby attests that it has satisfied all claims against it for items, including by way of illustration but not by way of limitation, items of: labor, materials, insurance, taxes, union benefits, equipment, etc. employed in the prosecution of the work of said contract, and acknowledges that satisfaction of such claims serves as an inducement for the Owner to release the Final Payment Due.

The undersigned hereby agrees to indemnify and hold harmless the Owner from and against all claims arising in connection with its Contract with respect to claims for the furnishing of labor, materials and equipment by others. Said indemnification and hold harmless shall include the reimbursement of all actual attorney's fees and all costs and expenses of every nature, and shall be to the fullest extent permitted by law.

The undersigned hereby irrevocably waives and releases any and all liens and right of lien on such real property and other property of the Owner for labor or materials, or both labor and materials, or rental equipment, appliances or tools, performed or furnished by the undersigned, and anyone claiming by, through, or under the undersigned, in connection with the Project.

The undersigned hereby releases, remises and discharges the Owner, any agent of the Owner and their respective predecessors, successors, assigns, employees, officers, shareholders, directors, and principals, whether disclosed or undisclosed (collectively "Releasees") from and against any and all claims, losses, damages, actions and causes of action (collectively "Claims") which the undersigned and anyone claiming by, through or under the undersigned has or may have against the Releasees, including, without limitation, any claims arising in connection with the Contract and the work performed thereunder.

Notwithstanding anything to the contrary herein, payment to the undersigned of the Final Payment Due sum as set forth above, shall not constitute a waiver by the Owner of any of its rights under the contract including by way of illustration but not by way of limitation guarantees and/or warranties. Payment will not be made until a signed waiver is returned to Owner.

The undersigned individual represents and warrants that he/she is the duly authorized representative of the undersigned, empowered and authorized to execute and deliver this document on behalf of the undersigned.

Signed under the penalties of perjury as of this ___ day of _____, _____.

_____Corporation

By: _____

Name: _____

Title: _____

Hereunder duly authorized

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF SUFFOLK

On this ___ day of _____, 20___, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it as _____ for _____, a corporation/partnership voluntarily for its stated purpose.

_____

NOTARY PUBLIC
My Commission Expires:

EXHIBIT G

BROKER DETERMINATION OF PREVAILING MARKET RENT

Where in the Lease to which this Exhibit G is attached provision is made for a Broker Determination of Prevailing Market Rent, the following procedures and requirements shall apply:

1. Tenant's Request. Tenant shall send a notice to Landlord by the time set for such notice in the applicable section of the Lease, requesting a Broker Determination of the Prevailing Market Rent, which notice to be effective must (i) make explicit reference to the Lease and to the specific section of the Lease pursuant to which said request is being made, (ii) include the name of a broker selected by Tenant to act for Tenant, which broker shall be affiliated with a major Boston commercial real estate brokerage firm selected by Tenant and which broker shall have at least ten (10) years' experience dealing in properties of a nature and type generally similar to the Building located in the Boston West Suburban Market, and (iii) explicitly state that Landlord is required to notify Tenant within thirty (30) days of an additional broker selected by Landlord.

2. Landlord's Response. Within thirty (30) days after Landlord's receipt of Tenant's notice requesting the Broker Determination and stating the name of the broker selected by Tenant, Landlord shall give written notice to Tenant of Landlord's selection of a broker having at least the affiliation and experience referred to above.

3. Selection of Third Broker. Within ten (10) days thereafter the two (2) brokers so selected shall select a third such broker also having at least the affiliation and experience referred to above who shall be impartial.

4. Rental Value Determination. Within thirty (30) days after the selection of the third broker, the three (3) brokers so selected, by majority opinion, shall make a determination of the annual fair market rental value of the Premises for the period referred to in the Lease. Such annual fair market rental value determination (x) may include provision for annual increases in rent during said term if so determined, (y) shall take into account the as-is condition of the Premises and (z) shall take account of, and be expressed in relation to, all other relevant factors. The brokers shall advise Landlord and Tenant in writing by the expiration of said thirty (30) day period of the annual fair market rental value which as so determined shall be referred to as the Prevailing Market Rent.

5. Resolution of Broker Deadlock. If the Brokers are unable to agree at least by majority on a determination of annual fair market rental value, then Landlord's broker and Tenant's broker shall send a notice to the third broker with copies thereof to Landlord and Tenant by the end of the thirty (30) day period for making said determination setting forth their individual determinations of annual fair market rental value. The Prevailing Market Rent shall be determined solely by the third broker by selecting either the determination of Landlord's broker or Tenant's broker, whichever is closest to the third broker's own calculation of Prevailing Market Rent.

6. Costs. Each party shall pay the costs and expenses of the broker selected by it and each shall pay one half (½) of the costs and expenses of the third broker.

7. Failure to Select Broker or Failure of Broker to Serve. If Tenant shall have requested a Broker Determination and Landlord shall not have designated a broker within the time period provided therefor above, then Tenant's Broker shall alone make the determination of Prevailing Market Rent in writing to Landlord and Tenant within thirty (30) days after the expiration of Landlord's right to designate a broker hereunder. If Tenant and Landlord have both designated brokers but the two brokers so designated do not, within a period of fifteen (15) days after the appointment of the second broker, agree upon and designate the third broker willing so to act, the Tenant, the Landlord or either broker previously designated may request the Boston Bar Association (or such organization as may succeed to the Boston Bar Association) to designate the third broker willing so to act and a broker so appointed shall, for all purposes, have the same standing and powers as though he had been seasonably appointed by the brokers first appointed. In case of the inability or refusal to serve of any person designated as a broker, or in case any broker for any reason ceases to be such, a broker to fill such vacancy shall be appointed by the Tenant, the Landlord, the brokers first appointed or the Boston Bar Association as the case may be, whichever made the original appointment, or if the person who made the original appointment fails to fill such vacancy, upon application of any broker who continues to act or by the Landlord or Tenant such vacancy may be filled by the Boston Bar Association and any broker so appointed to fill such vacancy shall have the same standing and powers as though originally appointed.

EXHIBIT H

FORM OF LETTER OF CREDIT

[Letterhead of a money center bank acceptable to the Owner]

[Please note the tenant on this Letter of Credit must match the exact tenant entity in the Lease]

[date]

[Landlord]
c/o Boston Properties LP
800 Boylston Street, Suite 1900
Boston, Massachusetts 02199-8103
Attn: Lease Administration, Legal Dept.

Ladies and Gentlemen:

We hereby establish our Irrevocable Letter of Credit and authorize you to draw on us at sight for the account of ***[Tenant]*** ("Applicant"), the aggregate amount of ***[spell out dollar amount]*** and ***[__]***/100 Dollars ***[($_____)]***. You shall have the right to make partial draws against this Letter of Credit from time to time.

Funds under this Letter of Credit are available to the beneficiary hereof as follows:

Any or all of the sums hereunder may be drawn down at any time and from time to time from and after the date hereof by ***[Landlord]*** ("Beneficiary") when accompanied by this Letter of Credit and a written statement signed by an individual purporting to be an authorized agent of Beneficiary, certifying that such moneys are due and owing to Beneficiary, and a sight draft executed and endorsed by such individual.

This Letter of Credit is transferable in its entirety to any successor in interest to Beneficiary as owner of ***[Property, Address, City/Town, State]***. Should a transfer be desired, such transfer will be subject to the return to us of this advice, together with written instructions. Any fees related to such transfer shall be for the account of the Applicant.

The amount of each draft must be endorsed on the reverse hereof by the negotiating bank. We hereby agree that this Letter of Credit shall be duly honored upon presentation and delivery of the certification specified above.

This Letter of Credit shall expire on ***[Final Expiration Date]***.

Notwithstanding the above expiration date of this Letter of Credit, the term of this Letter of Credit shall be automatically renewed for successive, additional one (1) year periods unless, at least sixty (60) days prior to any such date of expiration, the undersigned shall give written notice to Beneficiary, by certified mail, return receipt requested and at the address set forth above or at such other address as may be given to the undersigned by Beneficiary, that this Letter of Credit will not be renewed.

If any instructions accompanying a drawing under this Letter of Credit request that payment is to be made by transfer to your account with another bank, we will only effect such payment by fed wire to a U.S. regulated bank, and we and/or such other bank may rely on an account number specified in such instructions even if the number identifies a person or entity different from the intended payee.

This Letter of Credit is governed by the Uniform Customs and Practice for Documentary Credits (1993 Revision), International Chamber of Commerce Publication 500.

Very truly yours,

[Name of Issuing Bank]

By: _____
Name: _____
Title: _____

EXHIBIT I

FORM OF CERTIFICATE OF INSURANCE

EXHIBIT J

TENANT'S HAZARDOUS MATERIALS

EXHIBIT K

LANDLORD WORK CONSTRUCTION SCHEDULE

Exhibit 10.11

LEASE

by and between

3 VDG Owner LLC,
a Delaware limited liability company

and

Fractyl Health, Inc.,
a Delaware corporation

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LEASE

THIS LEASE (this "Lease") is entered into as of August 10, 2022 (the "Execution Date"), by and between 3 VDG Owner LLC, a Delaware limited liability company ("Landlord"), and Fractyl Health, Inc., a Delaware corporation ("Tenant").

RECITALS

A. WHEREAS, Landlord owns certain real property (the "Property") and the improvements on the Property located at 3 Van de Graaf Drive, Burlington, Massachusetts, including the building located thereon (the "Building"); and

B. WHEREAS, Landlord wishes to lease to Tenant, and Tenant desires to lease from Landlord, certain premises (the "Premises") located on the second and third floors of the Building and containing approximately 78,000 rentable square feet, as shown on Exhibit A attached hereto, pursuant to the terms and conditions of this Lease, as detailed below.

AGREEMENT

NOW, THEREFORE, Landlord and Tenant, in consideration of the mutual promises contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, agree as follows:

1. Lease of Premises.

1.1. Effective on the Term Commencement Date (as defined below), Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises for use by Tenant in accordance with the Permitted Use (as defined below) and no other uses. The Property and all landscaping, parking facilities, private drives and other improvements and appurtenances related thereto, including the Building, are hereinafter collectively referred to as the "Project." All portions of the Project that are for the non-exclusive use of the tenants of the Building, such as service corridors, stairways, elevators, public restrooms, public lobbies, driveways, sidewalks, parking areas, and landscaped areas, are hereinafter referred to as "Common Area."

1.2. Tenant shall, subject to reasonable closures for repairs and the like, casualty, and condemnation, have the appurtenant, non-exclusive right, in common with others, to use the common fitness center and café located at the Project, in each case subject to reasonable rules established by Landlord from time to time in Landlord's sole and absolute discretion (the facilities referred to in this paragraph, collectively, the "Amenities"), which shall remain open and operational for the Term subject to the provisions in subsections (a) and (b) below as well as reasonable closures for repairs and the like, casualty and condemnation, and Force Majeure (as defined in Section 17.2). Without limiting the foregoing:

(a) Landlord shall have the right to require that users of the fitness center sign customary waivers of claims and comply with all reasonable safety and other procedures applicable to use of the fitness center. Tenant hereby covenants that Tenant's employees shall not enter or use the fitness center without first delivering to Landlord a fully executed copy of the

release form set forth on the Rider attached hereto as Exhibit E (the "Fitness Center Release"). Tenant shall defend, indemnify and save harmless, Landlord and its agents and employees against and from all liabilities, obligations, damages, penalties, claims, costs, charges and expenses, including reasonable attorneys' fees, which may be imposed upon or incurred by or asserted against Landlord and/or its agents by reason of unauthorized entry or use of the fitness center by Tenant's employees. Notwithstanding any other provision herein to the contrary, Landlord reserves the right (i) to retain a third party operator to operate the fitness center, (ii) to lease the fitness center to a third party who agrees to operate a fitness facility which shall be available to tenants of the Project (including Tenant) and their employees free of charge, and/or (iii) to provide a fitness center which is unattended, and does not provide amenities such as towels (provided that the fitness center shall be cleaned and disinfected daily as part of Landlord/s janitorial obligations hereunder), or otherwise use, the fitness center on substantially the same basis as set forth in this Lease. Landlord shall use commercially reasonable efforts to continue to make a fitness facility of substantially similar quality as in existence as of the Term Commencement Date available at the Building during the Term, provided, however, such facility need not be attended nor provide amenities such as towels (provided that the fitness center shall be cleaned and disinfected daily as part of Landlord/s janitorial obligations hereunder), and may be relocated to other comparable space in the Building, as reasonably determined by Landlord with input from the tenants of the Building. Landlord shall have the right and option, in its sole discretion, to suspend Tenant's use of the fitness center upon thirty (30) days prior written notice to Tenant if the fitness center is temporarily closed due to (A) Force Majeure or (B) renovation.

(b) Tenant and its employees, contractors, visitors and consultants shall have the right to use the café from and after the Term Commencement Date and thereafter during the Term, provided such parties shall be responsible for payment of all charges for meals and other items purchased at the café. The use of such facilities by Tenant and/or its employees, contractors, visitors and consultants shall be subject to compliance with the other provisions of this Section. From and after the Term Commencement Date and thereafter during the Term, Landlord shall use commercially reasonable efforts to continue to operate the café, provided, however, that Landlord (i) shall not be required to subsidize the café in any manner, and (ii) in its reasonable discretion, may change the size, configuration or location of the café area within the Building; provided, however, Landlord shall continue to make a café of substantially similar quality and size as in existence as of the Term Commencement Date available in the Building during the Term. In the event that Landlord is unable to locate an operator that will operate the café on terms, including, without limitation, economic terms reasonably acceptable to Landlord, Landlord shall have the right and option, in its reasonable business discretion, to take any steps necessary to reduce or eliminate such costs, including, without limitation, modification or reduction of the food service.

Subject to Section 10, any reasonable amounts paid by Landlord on account of its operation of the Amenities (including, without limitation, Landlord's costs of cleaning, maintaining, and repairing the Amenities as well as a market rent for the space in which such Amenities operate) shall be included in Operating Expenses.

1.3. Reserved.

2. Basic Lease Provisions. For convenience of the parties, certain basic provisions of this Lease are set forth herein. The provisions set forth herein are subject to the remaining terms and conditions of this Lease and are to be interpreted in light of such remaining terms and conditions.

2.1. This Lease shall take effect upon the Execution Date and, except as specifically otherwise provided within this Lease, each of the provisions hereof shall be binding upon and inure to the benefit of Landlord and Tenant from the date of execution and delivery hereof by all parties hereto.

2.2. In the definitions below, "Tenant's Pro Rata Share" are all subject to adjustment as provided in this Lease.

Definition or Provision	Means the Following (As of the Execution Date)
Tenant's Pro Rata Share of Building	24.118%

2.3. Monthly and annual installments of Base Rent for the Premises ("Base Rent") as of the Rent Commencement Date (as defined below), subject to annual adjustment under Article 8 of this Lease:

Months	Annual Base Rent	Monthly Installments of Annual Base Rent
1 – 8 (i.e., Premises Base Rent Abatement Period)	$ 5,070,000.00	$ 422,500.00
9 – 12	$ 5,070,000.00	$ 422,500.00
13 – 24	$ 5,222,100.00	$ 435,175.00
25 – 36	$ 5,378,763.00	$ 448,230.25
37 – 48	$ 5,540,125.89	$ 461,677.16
49 – 60	$ 5,706,329.67	$ 475,527.47
61 – 72	$ 5,877,519.56	$ 489,793.30
73 – 84	$ 6,053,845.14	$ 504,487.10
85 – 96	$ 6,235,460.50	$ 519,621.71
97 – 108	$ 6,422,524.31	$ 535,210.36
109 – 120	$ 6,615,200.04	$ 551,266.67
121 – 128	$ 6,813,656.04	$ 567,804.67

2.4. Term Commencement Date: The date of Substantial Completion of Landlord's Work (as defined in the Work Letter attached hereto as Exhibit B (the "Work Letter")). The parties estimate that that the Term Commencement Date will occur on or about November 1, 2023 (the "Estimated Term Commencement Date").

2.5. Rent Commencement Date: Two hundred forty (240) days after the Term Commencement Date.

2.6. Security Deposit: $4,255,000.00, subject to decrease in accordance with the terms hereof.

2.7. Permitted Use: Office and laboratory use in conformity with all federal, state, municipal and local laws, codes, ordinances, rules and regulations of Governmental Authorities (as defined below), committees, associations, or other regulatory committees, agencies or governing bodies having jurisdiction over the Premises, the Building, the Property, the Project, Landlord or Tenant, including both statutory and common law and hazardous waste rules and regulations ("Applicable Laws"); provided, however, in no event shall Tenant or any subtenant or other occupant of all or any portion of the Premises use the Premises or any portion thereof in a manner that includes activities that would qualify or be characterized as any biosafety level ("BSL") other than BSL1 or BSL2.

2.8. Floor Area of the Premises: Approximately 78,000 rentable square feet.

2.9. Reserved

2.10. Reserved

2.11. Address for Rent Payment:

3 VDG JV LLC
c/o Jumbo Capital Incorporated
1900 Crown Colony Drive, Suite 405
Quincy, MA 02169

2.12. Address for Notices to Landlord:

3 VDG Owner LLC
c/o Jumbo Capital Incorporated
1900 Crown Colony Drive, Suite 405
Quincy, MA 02169

2.13. Address for Notices to Tenant:

Prior to the Term Commencement Date
Fractyl Health, Inc.
17 Hartwell Avenue
Lexington, MA 02421

		From the Term Commencement Date Fractyl Health, Inc. 3 Van de Graff Drive Burlington, MA 01803
2.14.	Address for Invoices to Tenant:	*Prior to the Term Commencement Date* Fractyl Health, Inc. 17 Hartwell Avenue Lexington, MA 02421 *From the Term Commencement Date* Fractyl Health, Inc. 3 Van de Graff Drive Burlington, MA 01803
2.15.	General Liability Insurance:	$5,000,000 per occurrence
2.16.	Bodily Injury & Property Damage:	$5,000,000 aggregate
2.17.	Parking:	Two and one-half (2.5) unreserved parking spaces for every 1,000 rentable square feet of the Premises (initially calculated to be One Hundred Ninety-Five (195) spaces based on the Floor Area of the Premises), subject to Section 13 below.
2.18.	Option to Extend:	One (1) five-year extension option, pursuant to Section 42 below.
2.19.	Reserved	

2.20. The following Exhibits are attached hereto and incorporated herein by reference:

Exhibit A	Premises
Exhibit B	Work Letter
Exhibit B-1	Scope of Work
Exhibit B-2	Fit Plan
Exhibit C	Acknowledgement of Term Commencement Date and Term Expiration Date
Exhibit D	Form of Letter of Credit
Exhibit E	Rules and Regulations
Exhibit F	Tenant’s Personal Property
Exhibit G	Form of Estoppel Certificate
Exhibit H	Tenant’s Work Insurance Requirements
Exhibit I	Fitness Center Release
Exhibit J	Exterior Signage Location
Exhibit K	CC&R’s

3. Term. The actual term of this Lease (as the same may be earlier terminated or extended in accordance with this Lease, the "Term") shall commence on the actual Term Commencement Date (as defined in Article 4) and end on the date (the "Term Expiration Date") that is the day immediately prior to the ten-year anniversary of the Rent Commencement Date, subject to earlier termination or extension of this Lease as provided herein; provided, however, that if the Rent Commencement Date is not the first day of a calendar month, then the Term Expiration Date shall be the last day of the calendar month in which the ten-year anniversary of the Rent Commencement Date occurs.

4. Tenant's Improvements.

4.1. Landlord shall perform the Landlord Work (as defined in the Work Letter attached hereto as Exhibit B (the "Work Letter")) in order to prepare the Premises for Tenant's use and occupancy in accordance with the Work Letter. Subject to Force Majeure and any Tenant Delay (as defined in the Work Letter), Landlord shall use diligent efforts to achieve Substantial Completion of the Landlord Work by the Estimated Term Commencement Date. However, except to the extent that such failure constitutes a delay in the occurrence of the Term Commencement Date (as provided in the definition of the Term Commencement Date): (i) except as otherwise provided herein, Tenant's sole remedies shall be a delay in the Term Commencement Date, (ii) Tenant shall have no claim or rights against Landlord, and Landlord shall have no liability or obligation to Tenant in the event of delay in the Landlord Work, and (iii) no delay in the Landlord Work shall have any effect on the parties rights or obligations under this Lease. Notwithstanding anything contained in this Lease or the Work Letter to the contrary, if Landlord fails or is unable to cause the Term Commencement Date to occur on or before the date that is thirty (30) days after the Estimated Term Commencement Date (as the Estimated Term Commencement Date shall be extended for Force Majeure and any Tenant Delay), Tenant shall be entitled to one (1) additional day of abated Base Rent for each day in the period commencing on the Estimated Term Commencement Date and ending on the day immediately preceding the Term Commencement Date.

4.2. Landlord shall cause the Landlord Work to be constructed in the Premises pursuant to the Work Letter at a cost to Landlord not to exceed Fifteen Million Six Hundred Thousand and 00/100 Dollars ($15,600,000.00) (based upon Two Hundred and 00/100 Dollars ($200.00) per square foot of Rentable Area (as defined below)) (the "TI Allowance"). The TI Allowance may be applied to the costs of (s) construction, (t) building permits and other taxes, fees, charges and levies by Governmental Authorities (as defined below) for permits or for inspections of the Landlord Work, and (u) costs and expenses for labor, material, equipment and fixtures. In no event shall the TI Allowance be used for (v) the cost of work that is not authorized by the Approved Plans (as defined in the Work Letter) or otherwise approved in writing by Landlord, (w) payments to Tenant or any affiliates of Tenant, (x) Tenant's soft costs or the purchase of any furniture, personal property or other non-building system equipment, (y) costs resulting from any default by Tenant of its obligations under this Lease or (z) costs that are recoverable by Tenant from a third party (e.g., insurers, warrantors, or tortfeasors). Notwithstanding the foregoing to the contrary, Tenant may apply up to fifteen percent (15%) of the TI Allowance toward the costs of Tenant's architectural, engineering, and project management fees, and equipment related to the initial occupancy of the Premises. In no event shall any unused TI Allowance entitle Tenant to a credit against Rent next payable under this Lease. In addition, Landlord shall provide an allowance of $200,000 to be

used towards the construction by Landlord of up to two loading dock doors that directly serve the Premises, it being agreed that any such loading dock(s) shall be exclusive to Tenant and shall be deemed to be included in the definition of Premises for all purposes hereunder. The design and location of such dock doors will be based on a mutually agreed upon plan as part of the Landlord Work.

4.2.1 In addition, Tenant shall have the one-time irrevocable option, exercisable upon written notice ("Additional Allowance Notice") to Landlord no later than December 31, 2022, to (i) amortize up to an additional twenty dollars ($20.00) per RSF ("Additional Allowance") over the Term at a rate of 8%, and/or (ii) Tenant shall have the option to convert Free Rent (as defined in Article 8) to be utilized as additional Tenant Improvement Allowance up to an amount equivalent to twenty dollars ($20.00) per RSF (provided, however, that such election to convert Free Rent shall have no effect on the Term of this Lease, which Term shall remain approximately one hundred twenty-eight (128) months from the Term Commencement Date). If Tenant does not timely deliver the Additional Allowance Notice to Landlord by December 31, 2022, then Tenant will be considered to have elected not to exercise the options provided in this Section 4.2.1, and Tenant shall have no further right to exercise the options provided in this Section 4.2.1.

4.3. Prior to entering upon the Premises, Tenant shall furnish to Landlord a certificate reasonably satisfactory to Landlord evidencing that insurance coverages required of Tenant under the provisions of Article 23 are in effect.

5. Condition of Premises. Tenant acknowledges that except as set forth herein neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of the Premises, the Building or the Project, or with respect to the suitability of the Premises, the Building or the Project for the conduct of Tenant's business. Tenant acknowledges that (a) based solely on a visual inspection, it is familiar with the condition of the Premises and agrees, subject to Landlord's performance of Landlord's obligations in the Work Letter, to take the same in its condition as of the Term Commencement Date and (b) except as provided in the Work Letter, Landlord shall have no obligation to alter, repair or otherwise prepare the Premises for Tenant's occupancy or to pay for or construct any improvements to the Premises. Tenant's taking of possession of the Premises shall, except as otherwise agreed to in writing by Landlord and Tenant, conclusively establish that the Premises, the Building and the Project were at such time in good, sanitary and satisfactory condition and repair.

6. Reserved.

7. Rent.

7.1. Tenant shall pay to Landlord as Base Rent for the Premises, commencing on the Rent Commencement Date, the sums set forth in Section 2.3, subject to the rental adjustments provided in Article 8 hereof. Base Rent shall be paid in equal monthly installments as set forth in Section 2.3, subject to the rental adjustments provided in Article 8 hereof, each in advance on the first day of each and every calendar month during the Term.

7.2. In addition to Base Rent, commencing on the Term Commencement Date, Tenant shall pay to Landlord as additional rent ("Additional Rent") at times hereinafter specified in this Lease (a) Tenant's Adjusted Share (as defined below) of Operating Expenses (as defined below), (b) the

Property Management Fee (as defined in Section 9.2.(x)), and (c) any other amounts that Tenant assumes or agrees to pay under the provisions of this Lease that are owed to Landlord, including any and all other sums that may become due by reason of any default of Tenant or failure on Tenant's part to comply with the agreements, terms, covenants and conditions of this Lease to be performed by Tenant, after notice and the lapse of any applicable cure periods.

7.3. Base Rent and Additional Rent shall together be denominated "Rent." Rent shall be paid to Landlord, without abatement, deduction or offset, in lawful money of the United States of America to the address set forth in Section 2.8 or to such other person or at such other place as Landlord may from time designate in writing. In the event the Term commences or ends on a day other than the first day of a calendar month, then the Rent for such fraction of a month shall be prorated for such period on the basis of the number of days in the month and shall be paid at the then-current rate for such fractional month.

7.4. Tenant's obligation to pay Rent shall not be discharged or otherwise affected by (a) any Applicable Laws now or hereafter applicable to the Premises, (b) any other restriction on Tenant's use, (c) except as expressly provided herein, any casualty or taking or (d) any other occurrence; and except as set forth herein Tenant waives all rights now or hereafter existing to terminate or cancel this Lease or quit or surrender the Premises or any part thereof, or to assert any defense in the nature of constructive eviction to any action seeking to recover rent. Tenant's obligation to pay Rent with respect to any period or obligations arising, existing or pertaining to the period prior to the date of the expiration or earlier termination of the Term of this Lease shall survive any such expiration or earlier termination; provided, however, that nothing in this sentence shall in any way affect Tenant's obligations with respect to any other period.

8. Rent Adjustments. Provided Tenant is not in default under the Lease beyond applicable notice and cure periods, Landlord agrees to abate Tenant's obligation to pay Base Rent for the first two hundred forty (240) days following the Term Commencement Date (the "Premises Base Rent Abatement"); provided that such period is subject to adjustment pursuant to Subsection 4.2.1. The period of time in which Tenant is entitled to the Premises Base Rent Abatement shall be referred to herein as the "Premises Base Rent Abatement Period" and the Base Rent abated shall be referred to herein as "Free Rent". During the Premises Base Rent Abatement Period, Tenant will remain responsible for the payment of Tenant's Pro Rata Share of the Property Management Fee, Operating Expenses, utilities and all other Additional Rent attributable to the Premises. Tenant acknowledges and agrees that the foregoing Premises Base Rent Abatement has been granted to Tenant as additional consideration for entering into this Lease, and for agreeing to pay the Base Rent and perform the terms and conditions otherwise required under the Lease. If Tenant shall be in default under the Lease beyond applicable notice and cure periods, then Tenant's right to receive the Premises Base Rent Abatement for the Base Rent Abatement Period shall automatically terminate and Tenant shall immediately be obligated to begin paying Base Rent for the Premises in full. The Premises Base Rent Abatement shall be personal to the original Tenant and shall only apply to the extent that the original Tenant (and not any assignee, or any sublessee or other transferee of the original Tenant's interest in this Lease) is the Tenant under this Lease during the Premises Base Rent Abatement Period.

9. Operating Expenses.

9.1. As used herein, the term "Operating Expenses" shall include:

(a) Government impositions, including property tax costs consisting of real and personal property taxes (including amounts due under any improvement bond upon the Building or the Project (including the parcel or parcels of real property upon which the Building and areas serving the Building are located)) or assessments in lieu thereof imposed by any federal, state, regional, local or municipal governmental authority, agency or subdivision (each, a "Governmental Authority"); taxes on or measured by gross rentals received from the rental of space in the Project; taxes based on the square footage of the Premises, the Building or the Project, as well as any parking charges, utilities surcharges or any other costs levied, assessed or imposed by, or at the direction of, or resulting from Applicable Laws or interpretations thereof, promulgated by any Governmental Authority in connection with the use or occupancy of the Project or the parking facilities serving the Project; taxes on this transaction or any document to which Tenant is a party creating or transferring an interest in the Premises; any fee for a business license to operate an office building; and any expenses, including the reasonable cost of attorneys or experts, reasonably incurred by Landlord in seeking reduction by the taxing authority of the applicable taxes, less tax refunds obtained as a result of an application for review thereof; and

(b) All other costs of any kind paid or incurred by Landlord in connection with the operation or maintenance of the Building and the Project, including without limitation, costs of repairs and replacements to improvements within the Project as appropriate to maintain the Project as required hereunder; costs of utilities furnished to the Common Area; costs associated with the operation of the Amenities; sewer fees; cable television; trash collection; cleaning, including windows; heating, ventilation and air-conditioning ("HVAC"); maintenance of landscaping and grounds; snow removal; maintenance of drives and parking areas; maintenance of the roof; security services and devices; building supplies; maintenance or replacement of equipment utilized for operation and maintenance of the Project; license, permit and inspection fees; sales, use and excise taxes on goods and services purchased by Landlord in connection with the operation, maintenance or repair of the Building or Project systems and equipment; telephone, postage, stationery supplies and other expenses incurred in connection with the operation, maintenance or repair of the Project; accounting, legal and other professional fees and expenses incurred in connection with the Project; costs of furniture, draperies, carpeting, landscaping supplies, snow removal supplies and other customary and ordinary items of personal property provided by Landlord for use in Common Area; capital expenditures amortized over the useful life thereof, as reasonably determined by Landlord, in accordance with generally accepted accounting principles and only the "annual charge-off" thereof shall be included in Operating Expenses for each year thereafter (the "annual charge-off" shall be determined by dividing the original cost of the capital expenditure by the number of years of useful life thereof (which useful life shall be determined by Landlord in its reasonable discretion in accordance with customary practice in the real estate industry) and adding to such quotient an interest factor computed on the unamortized balance of such capital expenditure based upon an interest rate then being charged for long-term mortgages by institutional lenders on similar properties within the locality in which the Building is located); costs of complying with Applicable

Laws (except to the extent such costs are incurred to remedy non-compliance as of the Execution Date with Applicable Laws); costs to keep the Project in compliance with, or costs or fees otherwise required under or incurred pursuant to any CC&Rs (as defined below), including condominium fees (if any); insurance premiums, including premiums for commercial general liability, property casualty, earthquake, terrorism and environmental coverages; portions of insured losses paid by Landlord as part of the deductible portion of a loss pursuant to the terms of insurance policies; service contracts; costs of services of independent contractors retained to do work of a nature referenced above; and costs of compensation (including employment taxes and fringe benefits) of all persons who perform regular and recurring duties connected with the day-to-day operation and maintenance of the Project, its equipment, the adjacent walks, landscaped areas, drives and parking areas, including janitors, floor waxers, window washers, watchmen, gardeners, sweepers, plow truck drivers, handymen, and engineering/maintenance/facilities personnel.

(c) Notwithstanding the foregoing, Operating Expenses shall not include any net income, franchise, capital stock, estate or inheritance taxes, or taxes that are the personal obligation of Tenant or of another tenant of the Project; any leasing commissions; expenses that relate to preparation of rental space for a tenant; expenses of initial development and construction, including grading, paving, landscaping and decorating (as distinguished from maintenance, repair and replacement of the foregoing); legal expenses relating to other tenants; reserves of any kind; costs of repairs to the extent reimbursed by payment of insurance proceeds received by Landlord; interest upon loans to Landlord or secured by a mortgage or deed of trust covering the Project or a portion thereof (provided that interest upon a government assessment or improvement bond payable in installments shall constitute an Operating Expense under Subsection 9.1(a)); salaries of executive officers of Landlord; depreciation claimed by Landlord for tax purposes (provided that this exclusion of depreciation is not intended to delete from Operating Expenses actual costs of repairs and replacements that are provided for in Subsection 9.1(b)); taxes that are excluded from Operating Expenses by the last sentence of Subsection 9.1(a); costs or expenses incurred in connection with the financing or sale of the Project or any portion thereof; costs expressly excluded from Operating Expenses elsewhere in this Lease or that are charged to or paid by Tenant under other provisions of this Lease; professional fees and disbursements and other costs and expenses related to the ownership (as opposed to the use, occupancy, operation, maintenance or repair) of the Project; and any item that, if included in Operating Expenses, would involve a double collection for such item by Landlord. To the extent that Landlord reasonably demonstrates that Tenant uses more than Tenant's Pro Rata Share of any item of Operating Expenses, Tenant shall pay Landlord for such excess in addition to Tenant's obligation to pay Tenant's Pro Rata Share of Operating Expenses (such excess, together with Tenant's Pro Rata Share, "Tenant's Adjusted Share").

9.2. Tenant shall pay to Landlord on the first day of each calendar month of the Term, as Additional Rent, (a) one-twelfth ($1/12^{th}$) of Tenant's Pro Rata Share of the Property Management Fee (as defined below), and (b) Landlord's estimate of Tenant's Adjusted Share of Operating Expenses with respect to the Building and the Project, as applicable, for such month.

(x) The "Property Management Fee" shall equal three percent (3.0%) of gross revenues of the Building. Tenant shall pay its Pro Rata Share of the Property Management Fee in accordance with Section 9.2 with respect to the entire Term, including any extensions thereof or any holdover

periods, regardless of whether Tenant is obligated to pay Base Rent, Operating Expenses or any other Rent with respect to any such period or portion thereof. During the Premises Base Rent Abatement Period, the Property Management Fee shall be calculated as if there were no Premises Base Rent Abatement.

(y) Within ninety (90) days after the conclusion of each calendar year (or such longer period as may be reasonably required by Landlord but no longer than one hundred twenty (120) days after the conclusion of the calendar year), Landlord shall furnish to Tenant a statement showing in reasonable detail the actual Operating Expenses, Tenant's Adjusted Share of Operating Expenses, and the cost of providing utilities to the Premises for the previous calendar year ("Landlord's Statement"). Any additional sum due from Tenant to Landlord shall be due and payable within thirty (30) days after receipt of an invoice therefor. If the amounts paid by Tenant pursuant to this Section exceed Tenant's Adjusted Share of Operating Expenses for the previous calendar year, then Landlord shall credit the difference against the Rent next due and owing from Tenant; provided that, if the Lease term has expired, Landlord shall accompany Landlord's Statement with payment for the amount of such difference.

(z) Any amount due under this Section for any period that is less than a full month shall be prorated for such fractional month on the basis of the number of days in the month.

9.3. Landlord's annual statement shall be final and binding upon Tenant unless Tenant, within 90 days after Tenant's receipt thereof, shall contest any item therein by giving written notice to Landlord, specifying each item contested and the reasons therefor; provided that Tenant shall in all events pay the amount specified in Landlord's annual statement, pending the results of the Independent Review and determination of the Accountant(s), as applicable and as each such term is defined below. If, during such 90-day period, Tenant reasonably and in good faith questions or contests the correctness of Landlord's statement of Tenant's Share of Operating Expenses, Landlord shall provide Tenant with reasonable access to Landlord's books and records to the extent relevant to determination of Operating Expenses, and such information as Landlord reasonably determines to be responsive to Tenant's written inquiries. In the event that, after Tenant's review of such information, Landlord and Tenant cannot agree upon the amount of Tenant's Share of Operating Expenses, then Tenant shall have the right to have an independent public accounting firm hired by Tenant on an hourly basis and not on a contingent-fee basis (at Tenant's sole cost and expense) and approved by Landlord (which approval Landlord shall not unreasonably withhold or delay) audit and review such of Landlord's books and records for the year in question as directly relate to the determination of Operating Expenses for such year (the "Independent Review"). Landlord shall make such books and records available at the location where Landlord maintains them in the ordinary course of its business, but need not provide Tenant with copies of any books or records. Tenant shall commence the Independent Review within fifteen (15) days after the date Landlord has given Tenant access to Landlord's books and records for the Independent Review. Tenant shall complete the Independent Review and notify Landlord in writing of Tenant's specific objections to Landlord's calculation of Operating Expenses (including Tenant's accounting firm's written statement of the basis, nature and amount of each proposed adjustment) no later than sixty (60) days after Landlord has first given Tenant access to Landlord's books and records for the Independent Review. Landlord shall review the results of any such Independent Review. The parties shall endeavor to agree promptly and reasonably upon Operating Expenses taking into account the results of such Independent Review. If, as of sixty (60) days

after Tenant has submitted the Independent Review to Landlord, the parties have not agreed on the appropriate adjustments to Operating Expenses, then the parties shall engage a mutually agreeable independent third party accountant with at least ten (10) years' experience in commercial real estate accounting in the greater Boston/Burlington, Massachusetts area (the "Accountant"). If the parties cannot agree on the Accountant, each shall within ten (10) days after such impasse appoint an Accountant (different from the accountant and accounting firm that conducted the Independent Review) and, within ten (10) days after the appointment of both such Accountants, those two Accountants shall select a third (which cannot be the accountant and accounting firm that conducted the Independent Review). If either party fails to timely appoint an Accountant, then the Accountant the other party appoints shall be the sole Accountant. Within ten (10) days after appointment of the Accountant(s), Landlord and Tenant shall each simultaneously give the Accountants (with a copy to the other party) its determination of Operating Expenses, with such supporting data or information as each submitting party determines appropriate. Within ten (10) days after such submissions, the Accountants shall by majority vote select either Landlord's or Tenant's determination of Operating Expenses. The Accountants may not select or designate any other determination of Operating Expenses. The determination of the Accountant(s) shall bind the parties. If the parties agree or the Accountant(s) determine that the Operating Expenses actually paid by Tenant for the calendar year in question exceeded Tenant's obligations for such calendar year, then Landlord shall, at Tenant's option, either (a) credit the excess to the next succeeding installments of estimated Additional Rent or (b) pay the excess to Tenant within thirty (30) days after delivery of such results. If the parties agree or the Accountant(s) determine that Tenant's payments of Operating Expenses for such calendar year were less than Tenant's obligation for the calendar year, then Tenant shall pay the deficiency to Landlord within thirty (30) days after delivery of such results. If the Independent Review reveals or the Accountant(s) determine that the Operating Expenses billed to Tenant by Landlord and paid by Tenant to Landlord for the applicable calendar year in question exceeded by more than five percent (5%) what Tenant should have been billed during such calendar year, then Landlord shall pay the reasonable cost of the Independent Review. In all other cases, Tenant shall pay the cost of the Independent Review.

9.4. Operating Expenses for the calendar year in which Tenant's obligation to share therein commences and for the calendar year in which such obligation ceases shall be prorated on a basis reasonably determined by Landlord. Expenses such as taxes, assessments and insurance premiums that are incurred for an extended time period shall be prorated based upon the time periods to which they apply so that the amounts attributed to the Premises relate in a reasonable manner to the time period wherein Tenant has an obligation to share in Operating Expenses.

9.5. In the event that the Building or Project is less than fully occupied during a calendar year, Landlord shall extrapolate Operating Expenses that vary depending on the occupancy of the Building or Project, as applicable, to equal Landlord's reasonable estimate of what such Operating Expenses would have been had the Building or Project, as applicable, been ninety-five percent (95%) occupied during such calendar year; provided, however, that Landlord shall not recover more than one hundred percent (100%) of Operating Expenses.

10. Taxes on Tenant's Property.

10.1. Tenant shall be solely responsible for the payment of any and all taxes levied upon (a) personal property and trade fixtures located at the Premises and (b) any gross or net receipts of or sales by Tenant, and shall pay the same prior to delinquency.

10.2. If any such taxes on Tenant's personal property or trade fixtures are levied against Landlord or Landlord's property or, if the assessed valuation of the Building, the Property or the Project is increased by inclusion therein of a value attributable to Tenant's personal property or trade fixtures, and if Landlord, after written notice to Tenant, pays the taxes based upon any such increase in the assessed value of the Building, the Property or the Project, then Tenant shall, upon demand, repay to Landlord the taxes so paid by Landlord.

10.3. If any improvements in or alterations to the Premises, whether owned by Landlord or Tenant and whether or not affixed to the real property so as to become a part thereof, are assessed for real property tax purposes at a valuation higher than the valuation at which improvements conforming to Landlord's building standards (the "Building Standard") in other spaces in the Building are assessed, then the real property taxes and assessments levied against Landlord or the Building, the Property or the Project by reason of such excess assessed valuation shall be deemed to be taxes levied against personal property of Tenant and shall be governed by the provisions of Section 10.2. Any such excess assessed valuation due to improvements in or alterations to space in the Project leased by other tenants at the Project shall not be included in Operating Expenses. If the records of the applicable governmental assessor's office are available and sufficiently detailed to serve as a basis for determining whether such Landlord Work or alterations are assessed at a higher valuation than the Building Standard, then such records shall be binding on both Landlord and Tenant.

11. Security Deposit.

11.1. Tenant shall deposit with Landlord within five (5) business days after the Execution Date the sum set forth in Section 2.6 (the "Security Deposit"), which sum shall be held by Landlord as security for the faithful performance by Tenant of all of the terms, covenants and conditions of this Lease to be kept and performed by Tenant during the period commencing on the Execution Date and ending upon the expiration or termination of Tenant's obligations under this Lease. If an Event of Default (as defined below) occurs with respect to any provision of this Lease, including any provision relating to the payment of Rent, then Landlord may (but shall not be required to) use, apply or retain all or any part of the Security Deposit for the payment of any Rent or any other sum in default, or to compensate Landlord for any other loss or damage that Landlord may suffer by reason of Tenant's Event of Default. If any portion of the Security Deposit is so used or applied, then Tenant shall, within ten (10) days following written demand therefor, deposit cash with Landlord in an amount sufficient to restore the Security Deposit to its original amount, and Tenant's failure to do so shall be a material breach of this Lease. The provisions of this Article shall survive the expiration or earlier termination of this Lease.

11.2. In the event of bankruptcy or other debtor-creditor proceedings against Tenant, the Security Deposit shall be deemed to be applied first to the payment of Rent and other charges due Landlord for all periods prior to the filing of such proceedings.

11.3. Landlord shall deliver to any purchaser of Landlord's interest in the Premises the funds deposited hereunder by Tenant, and thereupon Landlord shall be discharged from any further liability with respect to such deposit. This provision shall also apply to any subsequent transfers.

11.4. If Tenant shall fully and faithfully perform every provision of this Lease to be performed by it, then the Security Deposit, or any balance thereof, shall be returned to Tenant (or, at Landlord's option, to the last assignee of Tenant's interest hereunder) within sixty (60) days after the expiration or earlier termination of this Lease.

11.5. If the Security Deposit shall be in cash, Landlord shall hold the Security Deposit in an account at a banking organization selected by Landlord; provided, however, that Landlord shall not be required to maintain a separate account for the Security Deposit, but may intermingle it with other funds of Landlord. Landlord shall be entitled to all interest and/or dividends, if any, accruing on the Security Deposit. Landlord shall not be required to credit Tenant with any interest for any period during which Landlord does not receive interest on the Security Deposit.

11.6. At Landlord's election from time-to-time, the Security Deposit may be in the form of cash, a letter of credit or any other security instrument reasonably acceptable to Landlord. If Landlord elects to have Tenant deliver a letter of credit (the "L/C Security") as the entire Security Deposit, the following shall apply:

(a) Tenant shall provide Landlord, and maintain in full force and effect throughout the Term and until the date that is six (6) months after the then-current Term Expiration Date, a letter of credit in the form of Exhibit E issued by an issuer reasonably satisfactory to Landlord, in the amount of the Security Deposit, with an initial term of at least one year. Landlord may require the L/C Security to be re-issued by a different issuer at any time during the Term if Landlord reasonably believes that the issuing bank of the L/C Security is or may soon become insolvent; provided, however, Landlord shall return the existing L/C Security to the existing issuer immediately upon receipt of the substitute L/C Security. If any issuer of the L/C Security shall become insolvent or placed into FDIC receivership, then Tenant shall immediately deliver to Landlord (without the requirement of notice from Landlord) substitute L/C Security issued by an issuer reasonably satisfactory to Landlord, and otherwise conforming to the requirements set forth in this Article. As used herein with respect to the issuer of the L/C Security, "insolvent" shall mean the determination of insolvency as made by such issuer's primary bank regulator (*i.e.*, the state bank supervisor for state-chartered banks; the OCC or OTS, respectively, for federally chartered banks or thrifts; or the Federal Reserve for its member banks). If, at the Term Expiration Date, any Rent remains uncalculated or unpaid, then (i) Landlord shall with reasonable diligence complete any necessary calculations, (ii) Tenant shall extend the expiry date of such L/C Security from time to time as Landlord reasonably requires and (iii) in such extended period, Landlord shall not unreasonably refuse to consent to an appropriate reduction of the L/C Security.

(b) If Tenant delivers to Landlord reasonably satisfactory L/C Security in place of the entire Security Deposit, Landlord shall remit to Tenant any cash Security Deposit Landlord previously held.

(c) Landlord may draw upon the L/C Security, and hold and apply the proceeds in the same manner and for the same purposes as the Security Deposit, if (i) an uncured Event of Default

(as defined below) exists, (ii) as of the date forty-five (45) days before any L/C Security expires (even if such scheduled expiry date is after the Term Expiration Date) Tenant has not delivered to Landlord an amendment or replacement for such L/C Security, reasonably satisfactory to Landlord, extending the expiry date to the earlier of (1) six (6) months after the then-current Term Expiration Date or (2) the date one year after the then-current expiry date of the L/C Security, (iii) the L/C Security provides for automatic renewals, Landlord asks the issuer to confirm the current L/C Security expiry date, and the issuer fails to do so within ten (10) business days, (iv) Tenant fails to pay (when and as Landlord reasonably requires) any bank charges for Landlord's transfer of the L/C Security or (v) the issuer of the L/C Security ceases, or announces that it will cease, to maintain an office in the city where Landlord may present drafts under the L/C Security (and fails to permit drawing upon the L/C Security by overnight courier or facsimile). This Section does not limit any other provisions of this Lease allowing Landlord to draw the L/C Security under specified circumstances.

(d) Tenant shall not seek to enjoin, prevent, or otherwise interfere with Landlord's draw under L/C Security, even if it violates this Lease. Tenant acknowledges that the only effect of a wrongful draw would be to substitute a cash Security Deposit for L/C Security, causing Tenant no legally recognizable damage. Landlord shall hold the proceeds of any draw in the same manner and for the same purposes as a cash Security Deposit. In the event of a wrongful draw, the parties shall cooperate to allow Tenant to post replacement L/C Security simultaneously with the return to Tenant of the wrongfully drawn sums, and Landlord shall upon request confirm in writing to the issuer of the L/C Security that Landlord's draw was erroneous.

(e) If Landlord transfers its interest in the Premises, then Tenant shall at Tenant's expense, within five (5) business days after receiving a request from Landlord, deliver (and, if the issuer requires, Landlord shall consent to) an amendment to the L/C Security naming Landlord's grantee as substitute beneficiary. If the required Security Deposit changes while L/C Security is in force, then Tenant shall deliver (and, if the issuer requires, Landlord shall consent to) a corresponding amendment to the L/C Security.

11.7. Provided that the Reduction Conditions Precedent (defined below) have all been satisfied as of the applicable Security Reduction Date (defined below), the amount of Security Deposit shall be reduced by the Security Reduction Amount (defined below), and thereafter the Security Reduction Amount shall be credited against Base Rent next due or, at Landlord's election, shall be refunded to Tenant. The remaining Security Deposit shall continue to be held by Landlord in accordance with this Lease and from and all references in this Lease to Security Deposit shall mean such remaining amount of the Security Deposit only (the "Remaining Security").

(a) "Security Reduction Date," "Security Reduction Amount" and "Reduction Conditions Precedent" shall mean the following:

(i) "Security Reduction Date" shall mean the four-year anniversary of the Rent Commencement Date;

(ii) "Security Reduction Amount" shall mean $1,267,500.00; and

(iii) "Reduction Conditions Precedent" are that: (i) as of the Security Reduction Date, there exists no act or omission on the part of Tenant which, with the passage of time or the giving of notice, or both, would constitute an Event of Default, and if such default exists, then the right to the Security Reduction is waived until the default is timely cured, and (ii) there has not been any Event of Default by Tenant under the Lease at any time during the twelve (12)-month period immediately prior to the Security Reduction Date.

Notwithstanding the foregoing, in no event shall the Security Deposit be reduced to a sum which is less than $2,957,500.00.

(b) If the Security Deposit is in the form of L/C Security, reductions in the amount of the Security Deposit will be evidenced by Tenant delivering to Landlord a replacement L/C Security or an amendment to the existing L/C Security in the amount of the Remaining Security after giving effect to the then applicable Security Reduction Amount in accordance with the terms of this Section 11.7. In the event (i) the Reduction Conditions Precedent have each been satisfied, and (ii) Tenant tenders the replacement L/C Security or amended L/C Security to Landlord in the form required herein, then and in such event, Landlord shall promptly exchange the L/C Security then held by Landlord for the replacement L/C Security or amended L/C Security tendered by Tenant.

11.8 Landlord hereby elects to initially have Tenant deliver the L/C Security as the entire Security Deposit, and Tenant shall deliver the same to Landlord within five (5) business days after the Execution Date.

12. Use.

12.1. Tenant shall use the Premises for the Permitted Use, and shall not use the Premises, or permit or suffer the Premises to be used, for any other purpose without Landlord's prior written consent, which consent Landlord may withhold in its sole and absolute discretion.

12.2. Tenant shall not use or occupy the Premises in violation of Applicable Laws; zoning ordinances; or the certificate of occupancy issued for the Building or the Project, and shall, upon five (5) days' written notice from Landlord, discontinue any use of the Premises that is declared or claimed by any Governmental Authority having jurisdiction to be a violation of any of the above, or that in Landlord's reasonable opinion violates any of the above. Tenant shall comply with any direction of any Governmental Authority having jurisdiction that shall, by reason of the Tenant's specific use or occupancy of the Premises (as opposed to lab and office use generally), impose any duty upon Tenant or Landlord with respect to the Premises or with respect to the use or occupation thereof, and shall indemnify, save, defend (at Landlord's option and with counsel reasonably acceptable to Landlord) and hold Landlord and its affiliates, employees, agents and contractors; and any lender, mortgagee, ground lessor or beneficiary (each, a "Lender" and, collectively with Landlord and its affiliates, employees, agents and contractors, the "Landlord Indemnitees") harmless from and against any and all demands, claims, liabilities, losses, costs, expenses, actions, causes of action, damages, suits or judgments, and all reasonable expenses (including reasonable attorneys' fees, charges and disbursements, regardless of whether the applicable demand, claim, action, cause of action or suit is voluntarily withdrawn or dismissed) incurred in investigating or resisting the same (collectively, "Claims") of any kind or nature that arise before, during or after the Term as a result of Tenant's breach of this Section.

12.3. Tenant shall not do or permit to be done anything that will invalidate or increase the cost of any fire, environmental, extended coverage or any other insurance policy covering the Building or the Project, and shall comply with all reasonable rules, orders, regulations and requirements of the insurers of the Building and the Project, and Tenant shall promptly, upon demand, reimburse Landlord for any additional premium charged for such policy by reason of Tenant's failure to comply with the provisions of this Article.

12.4. Tenant shall keep all doors opening onto public corridors closed, except when in use for ingress and egress.

12.5. No additional locks or bolts of any kind shall be placed upon any of the doors or windows by Tenant, nor shall any changes be made to existing locks or the mechanisms thereof without Landlord's prior written consent. Tenant shall, upon termination of this Lease, return to Landlord all keys to offices and restrooms either furnished to or otherwise procured by Tenant. In the event any key so furnished to Tenant is lost, Tenant shall pay to Landlord the cost of replacing the same or of changing the lock or locks opened by such lost key if Landlord shall deem it necessary to make such change. Notwithstanding the foregoing, subject to the other terms and provisions of this Lease, Tenant may install Tenant's own security system for the Premises.

12.6. No awnings or other projections shall be attached to any outside wall of the Building. No curtains, blinds, shades or screens shall be attached to or hung in, or used in connection with, any window or door of the Premises other than Landlord's standard window coverings. Neither the interior nor exterior of any windows shall be coated or otherwise sunscreened without Landlord's prior written consent, nor shall any bottles, parcels or other articles be placed on the windowsills or items attached to windows that are visible from outside the Premises. No equipment, furniture or other items of personal property shall be placed on any exterior balcony without Landlord's prior written consent.

12.7. Except as provided herein, no sign, advertisement or notice ("Signage") shall be exhibited, painted or affixed by Tenant on any part of the Premises or the Building without Landlord's prior written consent. Signage shall conform to Landlord's design criteria. For any Signage, Tenant shall, at Tenant's own cost and expense, (a) acquire all permits for such Signage in compliance with Applicable Laws and (b) design, fabricate, install and maintain such Signage in a first-class condition. Tenant shall be responsible for reimbursing Landlord for costs incurred by Landlord in removing any of Tenant's Signage upon the expiration or earlier termination of the Lease. Landlord shall provide Tenant with a listing on all appropriate building directories and with Building-standard suite entry signage, at Landlord's cost and expense for the initial such signs (provided that any changes thereafter shall be at Tenant's cost and expense). Tenant may, at Tenant's cost and expense, place Tenant's own signage on the main entry doors to the Premises, such signage to be of a size, color and type and be located in a place reasonably acceptable to Landlord. Additionally, Tenant may, at Tenant's cost and expense, install an exterior monument sign at Tenant's dedicated entrance to the Premises, such signage to be of a size, color and type and be located in a place reasonably acceptable to Landlord. The directory tablet shall be provided exclusively for the display of the name and location of tenants only. Tenant shall not place anything on the exterior of the corridor walls or corridor doors other than Landlord's standard lettering. At Landlord's option, Landlord may install any Tenant Signage, and Tenant shall pay all reasonable costs associated with such installation within thirty (30) days after demand therefor.

Subject to Applicable Laws and Landlord's prior written approval of plans and specifications therefor, which approval shall not be unreasonably withheld, delayed or conditioned, Tenant, at Tenant's sole cost and expense, shall be entitled to install one (1) exterior Building sign, subject to a mutually agreed upon size, in the location set forth on Exhibit J attached hereto.

12.8. Tenant may only place equipment within the Premises with floor loading consistent with the Building's structural design unless Tenant obtains Landlord's prior written approval. Tenant may place such equipment only in a location designed to carry the weight of such equipment.

12.9. Tenant shall cause any equipment or machinery to be installed in the Premises so as to reasonably prevent sounds or vibrations therefrom from extending into the Common Area or other offices in the Project.

12.10. Tenant shall not (a) do or permit anything to be done in or about the Premises that shall in any way obstruct or interfere with the rights of other tenants or occupants of the Project, or injure or annoy them, (b) use or allow the Premises to be used for immoral, unlawful or objectionable purposes, (c) cause, maintain or permit any nuisance or waste in, on or about the Project or (d) take any other action that would in Landlord's reasonable determination in any manner adversely affect other tenants' quiet use and enjoyment of their space or adversely impact their ability to conduct business in a professional and suitable work environment. Notwithstanding anything in this Lease to the contrary, Tenant may not install any security systems (including cameras) outside the Premises or that record sounds or images outside the Premises without Landlord's prior written consent, which Landlord may withhold in its sole and absolute discretion. Notwithstanding the foregoing, subject to the other terms and provisions of this Lease, Tenant may install Tenant's own security system for the Premises.

12.11. Notwithstanding any other provision herein to the contrary, Tenant shall be responsible for all liabilities, costs and expenses arising out of or in connection with the compliance of the Premises with the Americans with Disabilities Act, 42 U.S.C. § 12101, et seq., and any state and local accessibility laws, codes, ordinances and rules (collectively, and together with regulations promulgated pursuant thereto, the "ADA"), and Tenant shall indemnify, save, defend (at Landlord's option and with counsel reasonably acceptable to Landlord) and hold the Landlord Indemnitees harmless from and against Claims arising out of any such failure of the Premises to comply with the ADA. This Section (as well as any other provisions of this Lease dealing with indemnification of the Landlord Indemnitees by Tenant) shall be deemed to be modified in each case by the insertion in the appropriate place of the following: "except as otherwise provided in Mass. G.L. Ter. Ed., C. 186, Section 15." For the avoidance of doubt, "Lenders" shall also include historic tax credit investors and new market tax credit investors. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

12.12. Tenant shall maintain temperature and humidity in the Premises in accordance with ASHRAE standards at all times.

12.13. Tenant shall establish and maintain a chemical safety program administered by a licensed, qualified individual in accordance with the requirements of the Massachusetts Water Resources Authority ("MWRA") and any other applicable Governmental Authority. Tenant shall be solely responsible for all costs incurred in connection with such chemical safety program, and Tenant

shall provide Landlord with such documentation as Landlord may reasonably require evidencing Tenant's compliance with the requirements of (a) the MWRA and any other applicable Governmental Authority with respect to such chemical safety program and (b) this Section. Notwithstanding the foregoing, Landlord shall obtain and maintain during the Term (m) any permit required by the MWRA ("MWRA Permit") and (n) a wastewater treatment operator license from the Commonwealth of Massachusetts with respect to Tenant's use of the Acid Neutralization Tank (as defined below) in the Building. Tenant shall not introduce anything into the Acid Neutralization Tank (x) in violation of the terms of the MWRA Permit, (y) in violation of Applicable Laws or (z) that would interfere with the proper functioning of the Acid Neutralization Tank. Tenant agrees to reasonably cooperate with Landlord in order to obtain the MWRA Permit and the wastewater treatment operator license. Tenant shall reimburse Landlord within ten (10) business days after demand for any costs incurred by Landlord pursuant to this Section.

13. Rules and Regulations, CC&Rs, Parking Facilities and Common Area.

13.1. Tenant shall have the non-exclusive right, in common with others, to use the Common Area in conjunction with Tenant's use of the Premises for the Permitted Use, and such use of the Common Area and Tenant's use of the Premises shall be subject to the rules and regulations adopted by Landlord and attached hereto as Exhibit E, together with such other reasonable and nondiscriminatory rules and regulations as are hereafter promulgated by written notice thereof to Tenant from Landlord in its sole and absolute discretion (the "Rules and Regulations"). Tenant shall and shall ensure that its contractors, subcontractors, employees, subtenants and invitees faithfully observe and comply with the Rules and Regulations. Landlord shall not be responsible to Tenant for the violation or non-performance by any other tenant or any agent, employee or invitee thereof of any of the Rules and Regulations.

13.2. This Lease is subject to any recorded covenants, conditions or restrictions on the Project or Property, as the same may be amended, amended and restated, supplemented or otherwise modified from time to time (the "CC&Rs"). Tenant shall comply with the CC&Rs. Landlord warrants and represents to Tenant that there are no CC&R's that are applicable to the Project and Property other than those attached hereto as Exhibit K.

13.3. Tenant shall have a non-exclusive, irrevocable license to use Tenant's Pro Rata Share of parking spaces allocated to the Project in common on an unreserved basis with other tenants of the Project during the Term. Except in connection with an assignment of this Lease or sublease of all or a portion of the Premises, Tenant's parking license shall be non-transferable and non-assignable (directly or indirectly) to any other institutions, entities or individuals.

13.4. Tenant agrees not to unreasonably overburden the parking facilities and agrees to cooperate with Landlord and other tenants in the use of the parking facilities. Overnight parking at the Project shall be strictly prohibited, except in the case of emergency or the extent employees are working in the Building. Landlord reserves the right to determine that parking facilities are becoming overcrowded and to limit Tenant's use thereof. Upon such determination, Landlord may reasonably allocate parking spaces among Tenant and other tenants of the Building or the Project. Nothing in this Section, however, is intended to create an affirmative duty on Landlord's part to monitor parking. Landlord, in Landlord's sole discretion, may institute a sticker system in connection with Tenant's parking license, and Tenant shall be solely responsible for distributing

any and all such stickers to Tenant's employees in connection therewith. Landlord may cause any such illegally parked car or any such car without a parking sticker, if applicable, to be towed from the Project, and Landlord may bill the owner of such car for any and all such costs and expenses in connection therewith. Landlord shall not be responsible for money, jewelry, automobiles or other personal property lost in or stolen from the parking facilities. Landlord shall not be liable for any loss, injury or damage to persons using the parking facilities or automobiles or other property thereon, it being agreed that, to the fullest extent permitted by Law, the use of the parking facilities shall be at the sole risk of Tenant and its employees. Except for emergency repairs, Tenant and its employees shall not perform any work on any automobiles while located at the Project.

13.5. Subject to the terms of this Lease including the Rules and Regulations and the rights of other tenants of the Building, Tenant shall have the non-exclusive right on an unreserved basis, subject to Section 4 of the Rules and Regulations, to access the freight loading dock and freight elevator twenty-four (24) hours per day, seven (7) days per week, at no additional cost. Landlord shall not be responsible for any coordination of the use of the freight elevator or the loading dock by tenants at the Building; however, Tenant shall have exclusive use of the two (2) dock doors to be constructed pursuant to the Work Letter. Landlord shall provide a dumpster at the loading dock for Tenant's use for the disposal of non-Hazardous Materials, and Tenant shall pay Tenant's Adjusted Share of the cost of said dumpster. Tenant shall be solely responsible for the disposal of any Hazardous Materials in accordance with Applicable Laws.

14. Project Control by Landlord.

14.1. Landlord reserves full control over the Building and the Project to the extent not inconsistent with and the same does not materially adversely interfere with or disturb Tenant's rights and privileges under this Lease, including access and parking and use and enjoyment of the Premises as provided by this Lease. This reservation includes Landlord's right to subdivide the Project; convert the Building to condominium units; change the size of the Project by selling all or a portion of the Project or adding real property and any improvements thereon to the Project; grant easements and licenses to third parties; maintain or establish ownership of the Building separate from fee title to the Property; make additions to or reconstruct portions of the Building and the Project; install, use, maintain, repair, replace and relocate for service to the Premises and other parts of the Building or the Project pipes, ducts, conduits, wires and appurtenant fixtures, wherever located in the Premises, the Building or elsewhere at the Project; and alter or relocate any other Common Area or facility, including private drives, lobbies, entrances and landscaping; provided, however, that such rights shall be exercised in a way that does not materially adversely affect, interfere with or disturb Tenant's beneficial use and occupancy of the Premises, including the Permitted Use and Tenant's access to the Premises. Tenant acknowledges that Landlord specifically reserves the right to allow the exclusive use of corridors and restroom facilities located on specific floors to one or more tenants occupying such floors; provided, however, that Tenant shall not be deprived of the use of the corridors reasonably required to serve the Premises or of restroom facilities serving the floor upon which the Premises are located.

14.2. Possession of areas of the Premises necessary for utilities, services, safety and operation of the Building is reserved to Landlord.

14.3. Tenant shall, at Landlord's request, promptly execute such further documents as may be reasonably appropriate to assist Landlord in the performance of its obligations hereunder; provided that Tenant need not execute any document that creates additional cost or liability for Tenant or that deprives Tenant of the quiet enjoyment and use of the Premises as provided for in this Lease.

14.4. Landlord may, at any and all reasonable times during non-business hours (or during business hours, if (a) with respect to Subsections 14.4(u) through 14.4(y), Tenant so requests, and (b) with respect to Subsection 14.4(z), if Landlord so requests), and upon twenty-four (24) hours' prior notice (which may be oral or by email to the office manager or other Tenant-designated individual at the Premises; but provided that no time restrictions shall apply or advance notice be required if an emergency necessitates immediate entry), enter the Premises to (u) inspect the same and to determine whether Tenant is in compliance with its obligations hereunder, (v) supply any service Landlord is required to provide hereunder, (w) alter, improve or repair any portion of the Building other than the Premises for which access to the Premises is reasonably necessary, (x) post notices of nonresponsibility, (y) access the telephone equipment, electrical substation and fire risers and (z) show the Premises to prospective tenants during the final year of the Term and current and prospective purchasers and lenders at any time. In connection with any such alteration, improvement or repair as described in Subsection 14.4(w), Landlord may erect in the Premises or elsewhere in the Project scaffolding and other structures reasonably required for the alteration, improvement or repair work to be performed. In no event shall Tenant's Rent abate as a result of Landlord's activities pursuant to this Section; provided, however, that all such activities shall be conducted in such a manner so as to cause as little interference to Tenant as is reasonably possible. Landlord shall at all times retain a key with which to unlock all of the doors in the Premises. If an emergency necessitates immediate access to the Premises, Landlord may use whatever force is necessary to enter the Premises, and any such entry to the Premises shall not constitute a forcible or unlawful entry to the Premises, a detainer of the Premises, or an eviction of Tenant from the Premises or any portion thereof.

15. Quiet Enjoyment. Landlord covenants that Tenant, upon paying the Rent and performing its obligations contained in this Lease, may peacefully and quietly have, hold and enjoy the Premises, free from any claim by Landlord or persons claiming under Landlord, but subject to all of the terms and provisions hereof, provisions of Applicable Laws and rights of record to which this Lease is or may become subordinate. This covenant is in lieu of any other quiet enjoyment covenant, either express or implied.

16. Utilities and Services.

16.1. All base Building water, electricity and gas utilities feeding the Premises will be separately submetered. Tenant shall pay for all water (including the cost to service, repair and replace reverse osmosis, de-ionized and other treated water), gas, heat, light, power, telephone, internet service, cable television, other telecommunications and other utilities supplied to the Premises, together with any fees, surcharges and taxes thereon. If any utility is not separately metered or sub-metered to Tenant, Tenant shall pay Tenant's Adjusted Share of all charges of such utility jointly metered with other premises as Additional Rent or, in the alternative, Landlord may, at its option, monitor the usage of such utilities by Tenant and charge Tenant with the cost of purchasing, installing and monitoring such metering equipment, which cost shall be paid by Tenant as Additional Rent. Landlord may base its bills for utilities on reasonable estimates; provided that Landlord adjusts

such billings promptly thereafter or as part of the next Landlord's Statement to reflect the actual cost of providing utilities to the Premises. To the extent that Tenant uses more than Tenant's Pro Rata Share of any utilities, then Tenant shall pay Landlord for Tenant's Adjusted Share of such utilities to reflect such excess. In the event that the Building or Project is less than fully occupied during a calendar year, Landlord shall extrapolate utility usage that varies depending on the occupancy of the Building or Project (as applicable) to equal Landlord's reasonable estimate of what such utility usage would have been had the Building or Project, as applicable, been ninety-five percent (95%) occupied during such calendar year; provided, however, that Landlord shall not recover more than one hundred percent (100%) of the cost of such utilities. Tenant shall not be liable for the cost of utilities supplied to the Premises attributable to the time period prior to the Term Commencement Date; provided, however, that, if Landlord shall permit Tenant possession of the Premises prior to the Term Commencement Date and Tenant uses the Premises for any purpose other than placement of personal property as set forth in Section 4.3, then Tenant shall be responsible for the cost of utilities supplied to the Premises from such earlier date of possession.

16.2. Landlord shall not be liable for, nor shall any eviction of Tenant result from, the failure to furnish any utility or service, whether or not such failure is caused by accidents; breakage; casualties (to the extent not caused by the party claiming Force Majeure); Severe Weather Conditions (as defined below); physical natural disasters (but excluding weather conditions that are not Severe Weather Conditions); strikes, lockouts or other labor disturbances or labor disputes (other than labor disturbances and labor disputes resulting solely from the acts or omissions of the party claiming Force Majeure); acts of terrorism; riots or civil disturbances; wars or insurrections; shortages of materials (which shortages are not unique to the party claiming Force Majeure); government regulations, moratoria or other governmental actions, inactions or delays; failures by third parties to deliver supplies including, without limitation, gas, oil or another suitable fuel supply, or inability of the party claiming Force Majeure, by exercise of reasonable diligence, to obtain gas, oil or another suitable fuel; unforeseen conditions or other causes beyond the reasonable control of the party claiming that Force Majeure has occurred (collectively, "Force Majeure"). In the event of such failure, Tenant shall not be entitled to termination of this Lease or any abatement or reduction of Rent, nor shall Tenant be relieved from the operation of any covenant or agreement of this Lease. Notwithstanding the foregoing to the contrary, if, due to any negligent or willful and wrongful act or omission of Landlord or Landlord's agents or employees, Tenant is prevented from receiving essential services or utilities that Landlord is obligated to perform or deliver under this Lease, and such interruption of essential services or utilities renders the Premises untenantable (meaning that Tenant is unable to use or occupy the Premises in a reasonably safe manner for the conduct of Tenant's business and Tenant has in fact vacated or partially vacated the Premises as a result), and if such interruption shall continue for a period of four (4) consecutive business days after notice thereof from Tenant to Landlord that the Premises are untenantable as a result thereof, then Base Rent and additional rent shall abate commencing on the fifth business day after such notice (and, if less than all of the Premises are affected by such interruption and vacated, such abatement shall be pro-rated according to the area so affected) until such time as such services or utilities are restored. The foregoing shall not apply to any interruption to the extent the same arises from any act or omission of Tenant or its agents, contractors or employees, or from fire or casualty, Force Majeure or taking or condemnation by the power of eminent domain. Tenant's rights herein granted shall be Tenant's sole and exclusive remedies for any loss or damage arising from any such interruption. "Severe Weather Conditions" means weather conditions that are materially worse than those that reasonably would be anticipated for the Property at the applicable time based on historic meteorological records.

16.3. Tenant shall pay for, prior to delinquency of payment therefor, any utilities and services that may be furnished to the Premises during or, if Tenant occupies the Premises after the expiration or earlier termination of the Term, after the Term, beyond those utilities provided by Landlord, including telephone, internet service, cable television and other telecommunications, together with any fees, surcharges and taxes thereon. Utilities and services provided to the Premises that are separately metered shall be paid by Tenant directly to the supplier of such utilities or services.

16.4. Tenant shall not, without Landlord's prior written consent, use any device in the Premises (including data processing machines) that will in any way (a) increase the amount of ventilation, air exchange, gas, steam, electricity or water required or consumed in the Premises based upon Tenant's Pro Rata Share of the Building or Project (as applicable) beyond the existing capacity of the Building or the Project usually furnished or supplied for the Permitted Use or (b) exceed Tenant's Pro Rata Share of the Building's or Project's (as applicable) capacity to provide such utilities or services.

16.5. If Tenant shall require utilities or services in excess of those usually furnished or supplied for tenants in similar spaces in the Building or the Project by reason of Tenant's equipment or extended hours of business operations, then Tenant shall first procure Landlord's consent which shall not be unreasonably withheld for the use thereof, which consent Landlord may condition upon the availability of such excess utilities or services, and Tenant shall pay as Additional Rent an amount equal to the cost of providing such excess utilities and services.

16.6. Landlord shall provide water in Common Area for lavatory and landscaping purposes only, which water shall be from the local municipal or similar source; provided, however, that if Landlord determines that Tenant requires, uses or consumes water provided to the Common Area for any purpose other than ordinary lavatory purposes, Landlord may install a water meter ("Tenant Water Meter") and thereby measure Tenant's water consumption for all purposes. Tenant shall pay Landlord for the costs of any Tenant Water Meter and the installation and maintenance thereof during the Term. If Landlord installs a Tenant Water Meter, Tenant shall pay for water consumed, as shown on such meter, as and when bills are rendered. If Tenant fails to timely make such payments, Landlord may pay such charges and collect the same from Tenant. Any such costs or expenses incurred or payments made by Landlord for any of the reasons or purposes stated in this Section shall be deemed to be Additional Rent payable by Tenant and collectible by Landlord as such.

16.7. Landlord reserves the right to stop service of the elevator, plumbing, ventilation, air conditioning and utility systems, when Landlord reasonably deems necessary or desirable, due to accident, emergency or the need to make repairs, alterations or improvements, until such repairs, alterations or improvements shall have been completed, and Landlord shall further have no responsibility or liability for failure to supply elevator facilities, plumbing, ventilation, air conditioning or utility service when prevented from doing so by Force Majeure. Without limiting the foregoing, it is expressly understood and agreed that any covenants on Landlord's part to furnish any service pursuant to any of the terms, covenants, conditions, provisions or agreements of this Lease, or to perform any act or thing for the benefit of Tenant, shall not be deemed breached if Landlord is unable to furnish or perform the same by virtue of Force Majeure.

16.8. Landlord will connect an existing back-up generator at the Building (the "Generator") to the Premises' stand-by electrical panel. Tenant shall be entitled to use up to 5 watts per rentable square footage of the Premises (after deducting any power from the Generator required for the Common Area) of power from the Generator on a non-exclusive basis with other tenants in the Building. The cost of maintaining, repairing and replacing the Generator shall constitute Operating Expenses. Landlord expressly disclaims any warranties with regard to the Generator or the installation thereof, including any warranty of merchantability or fitness for a particular purpose. Landlord shall maintain the Generator and any equipment connecting the Generator to Tenant's automatic transfer switch in good working condition as set forth above, provided, however, that Tenant shall be solely responsible, at Tenant's sole cost and expense, (and Landlord shall not be liable) for maintaining and operating Tenant's automatic transfer switch and the distribution of power from Tenant's automatic transfer switch throughout the Premises, and provided, further, that Landlord but shall not be liable for any failure to make any repairs or to perform any maintenance that is an obligation of Landlord unless such failure shall persist for an unreasonable time after Tenant provides Landlord with written notice of the need for such repairs or maintenance.

16.9. For the Premises, Landlord shall (a) subject to Section 18.1, maintain and operate the Building HVAC systems and (b) subject to Section 16.2 and Subsection 16.9(a), furnish HVAC as reasonably required (except as this Lease otherwise provides or as to any special requirements that arise from Tenant's particular use of the Premises) for reasonably comfortable occupancy of the Premises from 8:00 a.m. to 6:00 p.m. on business week days (excluding holidays) and from 8:00 a.m. to 1:00 p.m. on Saturdays (provided that if Tenant requires such HVAC at any other time(s), Landlord shall use reasonable efforts to furnish such service upon reasonable notice from Tenant, and Tenant shall pay Landlord's charges therefor on demand), subject to casualty, eminent domain or as otherwise specified in this Article. To the extent that Tenant requires HVAC services in excess of those provided by connection to the Building HVAC systems, Tenant shall install and maintain, at its sole cost, (and Landlord shall not be liable for) supplemental HVAC systems in accordance with the provisions of this Lease. Tenant shall pay Landlord, as Additional Rent, Tenant's Adjusted Share of airflow to the Premises. Notwithstanding anything to the contrary in this Section, Landlord shall have no liability, and Tenant shall have no right or remedy, on account of any interruption or impairment in HVAC services; provided that Landlord diligently endeavors to cure any such interruption or impairment.

16.10. For any utilities serving the Premises for which Tenant is billed directly by such utility provider, Tenant agrees to furnish to Landlord (a) any invoices or statements for such utilities within thirty (30) days after Tenant's receipt thereof, (b) within thirty (30) days after Landlord's request, any other utility usage information reasonably requested by Landlord, and (c) within thirty (30) days after each calendar year during the Term, authorization to allow Landlord to access Tenant's usage information necessary for Landlord to complete an ENERGY STAR® Statement of Performance (or similar comprehensive utility usage report (e.g., related to Labs 21), if requested by Landlord) and any other information reasonably requested by Landlord for the immediately preceding year; and Tenant shall comply with any other energy usage or consumption requirements required by Applicable Laws. Tenant shall retain records of utility usage at the

Premises, including invoices and statements from the utility provider, for at least sixty (60) months, or such other period of time as may be reasonably requested by Landlord. Tenant acknowledges that any utility information for the Premises, the Building and the Project may be shared with third parties, including Landlord's consultants and Governmental Authorities. In the event that Tenant fails to comply with this Section, Tenant hereby authorizes Landlord to collect utility usage information directly from the applicable utility providers, and Tenant shall pay Landlord a fee of One Thousand Dollars ($1,000) per month to collect such utility usage information. In addition to the foregoing, Tenant shall comply with all Applicable Laws related to the disclosure and tracking of energy consumption at the Premises to the extent expressly applicable to tenants, and Tenant shall reasonably cooperate with Landlord with respect to any obligations that Landlord may have under Applicable Laws related to disclosure and tracking of energy consumption at the Premises. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

16.11. The Building is currently serviced by a common laboratory waste sanitary sewer connection from the pH neutralization room in the basement of the Building to the municipal sewer line in the street adjacent to the Building. There currently exists a separate acid neutralization tank (the "Acid Neutralization Tank") that is connected to the Premises, as well as to other premises in the Building. Tenant shall have a non-exclusive right to use up to Tenant's Pro Rata Share of the Building of the Acid Neutralization Tank in accordance with Applicable Laws in common with other tenants of the Building. Tenant, as a portion of its Operating Expenses, shall reimburse Landlord for all costs, charges and expenses incurred by Landlord from time to time in connection with or arising out of the operation, use, maintenance, repair or refurbishment of the Acid Neutralization Tank, including all clean-up costs relating to the Acid Neutralization Tank (collectively, "Tank Costs"); provided, however, that if the Acid Neutralization Tank is being used by other tenant(s) or occupant(s) of the Building at any time during the Term, then, during such time period, Tenant shall only be obligated to pay its Pro Rata Share of the Building of the Tank Costs. Notwithstanding the foregoing, in the event the Acid Neutralization Tank is damaged or repairs to the Acid Neutralization Tank are required as a result of the improper use of the Acid Neutralization Tank by Tenant, Tenant shall be responsible for one hundred percent (100%) of the cost of any repairs or replacement required as a result of such improper use by Tenant, regardless of whether the Acid Neutralization Tank is then being used by other tenant(s) or occupant(s) of the Building. Similarly, if the Acid Neutralization Tank is damaged, or if repairs to the Acid Neutralization Tank are required as a result of the improper use of the Acid Neutralization Tank by other tenant(s) or occupant(s) of the Building, then Tenant shall have no responsibility for the cost of any repairs or replacements required as a result of such improper use by such other tenant(s) or occupant(s). Tenant shall indemnify, save, defend (at Landlord's option and with counsel reasonably acceptable to Landlord) and hold the Landlord Indemnitees harmless from and against any and all Claims, including (a) diminution in value of the Project or any portion thereof, (b) damages for the loss or restriction on use of rentable or usable space or of any amenity of the Project, (c) damages arising from any adverse impact on marketing of space in the Project or any portion thereof and (d) sums paid in settlement of Claims that arise during or after the Term as a result of Tenant's improper use of the Acid Neutralization Tank. This indemnification by Tenant includes costs incurred in connection with any investigation of site conditions or any clean-up, remediation, removal or restoration required by any Governmental Authority caused by Tenant's improper use of the Acid Neutralization Tank.

17. Alterations.

17.1. Tenant shall make no alterations, additions or improvements in or to the Premises or engage in any construction, demolition, reconstruction, renovation or other work (whether major or minor) of any kind in, at or serving the Premises ("Alterations") without Landlord's prior written approval, which approval Landlord shall not unreasonably withhold; provided, however, that, in the event any proposed Alteration affects (a) any structural portions of the Building, including exterior walls, the roof, the foundation or slab, foundation or slab systems (including barriers and subslab systems) or the core of the Building, (b) the exterior of the Building or (c) any Building systems, including elevator, plumbing, HVAC, electrical, security, life safety and power, then Landlord may withhold its approval in its sole and absolute discretion. Tenant shall, in making any Alterations, use only those architects, contractors, suppliers and mechanics of which Landlord has given prior written approval, which approval shall not be unreasonably withheld, conditioned or delayed. In seeking Landlord's approval, Tenant shall provide Landlord, at least thirty (30) days in advance of any proposed construction, with plans, specifications, bid proposals, certified stamped engineering drawings and calculations by Tenant's engineer of record or architect of record (including connections to the Building's structural system, modifications to the Building's envelope, non-structural penetrations in slabs or walls, and modifications or tie-ins to life safety systems), work contracts, requests for laydown areas and such other information concerning the nature and cost of the Alterations as Landlord may reasonably request. In no event shall Tenant use or Landlord be required to approve any architects, consultants, contractors, subcontractors or material suppliers that Landlord reasonably believes could cause labor disharmony or may not have sufficient experience, in Landlord's reasonable opinion, to perform work in an occupied Class "A" laboratory research building and in tenant-occupied lab areas.

17.2. Tenant shall not construct or permit to be constructed partitions or other obstructions that might interfere with free access to mechanical installation or service facilities of the Building or with other tenants' components located within the Building, or interfere with the moving of Landlord's equipment to or from the enclosures containing such installations or facilities.

17.3. Tenant shall accomplish any work performed on the Premises or the Building in such a manner as to permit any life safety systems to remain fully operable at all times.

17.4. Any work performed on the Premises, the Building or the Project by Tenant or Tenant's contractors shall be done at such times and in such manner as Landlord may from time to time reasonably designate. Tenant covenants and agrees that all work done by Tenant or Tenant's contractors shall be performed in full compliance with Applicable Laws. Within thirty (30) days after completion of any Alterations, Tenant shall provide Landlord with complete "as built" drawing print sets and electronic CADD files on disc (or files in such other current format in common use as Landlord reasonably approves or requires) showing any changes in the Premises, as well as a commissioning report prepared by a licensed, qualified commissioning agent hired by Tenant and reasonably approved by Landlord for all new or affected mechanical, electrical and plumbing systems. Any such "as built" plans shall show the applicable Alterations as an overlay on the Building as-built plans; provided that Landlord provides the Building "as built" plans to Tenant.

17.5. Before commencing any Alterations, Tenant shall (a) give Landlord at least thirty (30) days' prior written notice of the proposed commencement of such work and the names and addresses of the persons supply labor or materials therefor so that Landlord may enter the Premises to post and keep posted thereon and therein notices or to take any further action that Landlord may reasonably deem proper for the protection of Landlord's interest in the Project and (b) shall, if required by Landlord, secure, at Tenant's own cost and expense, a completion and lien indemnity bond satisfactory to Landlord for such work.

17.6. Tenant shall repair any damage to the Premises caused by Tenant's removal of any property from the Premises. During any such restoration period, Tenant shall pay Rent to Landlord as provided herein as if such space were otherwise occupied by Tenant. The provisions of this Section shall survive the expiration or earlier termination of this Lease.

17.7. The Premises plus any Alterations; Signage; Landlord Work; attached equipment, decorations, fixtures and trade fixtures; movable laboratory casework and related appliances; and other additions and improvements attached to or built into the Premises made by either of the parties (including all floor and wall coverings; paneling; sinks and related plumbing fixtures; laboratory benches; exterior venting fume hoods; walk-in freezers and refrigerators; ductwork; conduits; electrical panels and circuits; attached machinery and equipment; and built-in furniture and cabinets, in each case, together with all additions and accessories thereto), shall (unless, prior to such construction or installation, Landlord elects otherwise in writing) at all times remain the property of Landlord, shall remain in the Premises and shall (unless, prior to construction or installation thereof, Landlord elects otherwise in writing) be surrendered to Landlord upon the expiration or earlier termination of this Lease. For the avoidance of doubt, the items listed on Exhibit F attached hereto (which Exhibit F may be updated by Tenant from and after the Term Commencement Date, subject to Landlord's written consent) constitute Tenant's property and shall be removed by Tenant upon the expiration or earlier termination of the Lease.

17.8. Notwithstanding any other provision of this Article to the contrary, in no event shall Tenant remove any improvement, equipment or fixtures from the Premises as to which Landlord contributed payment, including the Landlord Work, without Landlord's prior written consent, which consent Landlord may withhold in its sole and absolute discretion.

17.9. If Tenant shall fail to remove any of its property from the Premises prior to the expiration or earlier termination of this Lease, then Landlord may, at its option, remove the same in any manner that Landlord shall choose and store such effects without liability to Tenant for loss thereof or damage thereto, and Tenant shall pay Landlord, upon demand, any reasonable costs and expenses incurred due to such removal and storage or Landlord may, at its sole option and without notice to Tenant, sell such property or any portion thereof at private sale and without legal process for such price as Landlord may obtain and apply the proceeds of such sale against any (a) amounts due by Tenant to Landlord under this Lease and (b) any expenses incident to the removal, storage and sale of such personal property.

17.10. Tenant shall pay to Landlord an amount equal to five percent (5%) of the cost to Tenant of all Alterations to cover Landlord's reasonable overhead and expenses for plan review, engineering review, coordination, scheduling and supervision thereof. For purposes of payment of such sum, Tenant shall submit to Landlord copies of all bills, invoices and statements covering the costs of

such charges, accompanied by payment to Landlord of the fee set forth in this Section. Tenant shall reimburse Landlord for any reasonable extra expenses incurred by Landlord by reason of faulty work done by Tenant or its contractors, or by reason of delays caused by such work, or by reason of inadequate clean-up.

17.11. Within sixty (60) days after final completion of any Alterations performed by Tenant with respect to the Premises, Tenant shall submit to Landlord documentation showing the amounts expended by Tenant with respect to such Alterations, together with supporting documentation reasonably acceptable to Landlord.

17.12. Tenant shall take, and shall cause its contractors to take, commercially reasonable steps to protect the Premises during the performance of any Alterations, including covering or temporarily removing any window coverings so as to guard against dust, debris or damage.

17.13. Tenant shall require its contractors and subcontractors performing work on the Premises to name Landlord and its affiliates and Lenders as additional insureds on their respective insurance policies.

17.14. Notwithstanding anything to the contrary in this Lease, Landlord and Tenant agree that Landlord shall be permitted to withhold its approval (in its sole and absolute discretion) of any Alteration that (a) is inconsistent with the office, manufacturing and lab zones identified on Exhibit A-1 attached hereto, or (b) affects the use or function of any DIRTT flexible wall and lab bench system within the Premises.

18. Repairs and Maintenance.

18.1. Subject to the limitations set forth in Section 16.9, Landlord shall repair and maintain in a first class manner consistent with comparable office and laboratory life science buildings in the Burlington/128 submarket as of the date hereof, and in compliance with all Applicable Laws, and replace as and when necessary, the structural and exterior portions and Common Area of the Building and the Project, including roofing and covering materials; foundations (excluding any architectural slabs, but including any structural slabs); exterior walls; plumbing; fire sprinkler systems (if any); base Building HVAC systems up to the first damper or isolation valve that serves the Premises (for purposes of clarity, the portion of the HVAC system that includes such first damper or isolation valve and extends into and through the Premises and any supplemental HVAC serving the Premises shall not be part of the base Building HVAC and shall be Tenant's obligation to maintain and repair pursuant to Section 18.2 below); the Acid Neutralization Tank and associated monitoring system; elevators; and electrical systems installed or furnished by Landlord.

18.2. Except for services of Landlord, if any, required by Section 18.1, Tenant shall at Tenant's sole cost and expense maintain and keep the Premises (including but not limited to (i) the portion of the HVAC system that includes such first damper or isolation valve and extends into and through the Premises and any supplemental HVAC serving the Premises and (ii) and any loading dock(s) directly serving the Premises), and every part thereof in good condition and repair, damage thereto from ordinary wear and tear excepted, and shall, within ten (10) days after receipt of written notice from Landlord, provide to Landlord any maintenance records that Landlord reasonably requests. Tenant shall, upon the expiration or sooner termination of the Term, surrender the Premises to

Landlord in as good a condition as existed when the Landlord Work is finally completed by Landlord, and with respect to Alterations, in substantially the same condition as existed on the date such Alterations are substantially completed by Tenant, ordinary wear and tear and damage by casualty and taking excepted; and shall, at Landlord's request and Tenant's sole cost and expense, remove all telephone and data systems, wiring and equipment from the Premises, and repair any damage to the Premises caused thereby. Landlord shall have no obligation to alter, remodel, improve, repair, decorate or paint the Premises or any part thereof, other than pursuant to the terms and provisions of the Work Letter or Section 4.1.

18.3. Landlord shall not be liable for any failure to make any repairs or to perform any maintenance that is Landlord's obligation pursuant to this Lease unless such failure shall persist for thirty (30) days, or such additional time as is reasonably required to correct any such failure, after Tenant provides Landlord with written notice of the need of such repairs or maintenance. Tenant waives its rights under Applicable Laws now or hereafter in effect to make repairs at Landlord's expense.

18.4. If any excavation shall be made upon land adjacent to or under the Building, or shall be authorized to be made, Tenant shall afford to the person causing or authorized to cause such excavation, license to enter the Premises for the purpose of performing such work as such person shall deem necessary or desirable to preserve and protect the Building from injury or damage and to support the same by proper foundations, without any claim for damages or liability against Landlord and without reducing or otherwise affecting Tenant's obligations under this Lease.

18.5. This Article relates to repairs and maintenance arising in the ordinary course of operation of the Building and the Project. In the event of a casualty described in Article 24, Article 24 shall apply in lieu of this Article. In the event of eminent domain, Article 25 shall apply in lieu of this Article.

18.6. Costs incurred by Landlord pursuant to this Article shall constitute Operating Expenses.

19. Liens.

19.1. Subject to the immediately succeeding sentence, Tenant shall keep the Premises, the Building and the Project free from any liens arising out of work or services performed, materials furnished to or obligations incurred by Tenant. Tenant further covenants and agrees that any mechanic's or materialman's lien filed against the Premises, the Building or the Project for work or services claimed to have been done for, or materials claimed to have been furnished to, or obligations incurred by Tenant shall be discharged or bonded by Tenant within ten (10) days after the filing thereof, at Tenant's sole cost and expense.

19.2. Should Tenant fail to discharge or bond against any lien of the nature described in Section 9.1, Landlord may, at Landlord's election, pay such claim or post a statutory lien bond or otherwise provide security to eliminate the lien as a claim against title, and Tenant shall immediately reimburse Landlord for the costs thereof as Additional Rent. Tenant shall indemnify, save, defend (at Landlord's option and with counsel reasonably acceptable to Landlord) and hold the Landlord Indemnitees harmless from and against any Claims arising from any such liens, including any administrative, court or other legal proceedings related to such liens.

19.3. In the event that Tenant leases or finances the acquisition of office equipment, furnishings or other personal property of a removable nature utilized by Tenant in the operation of Tenant's business, Tenant warrants that any Uniform Commercial Code financing statement shall, upon its face or by exhibit thereto, indicate that such financing statement is applicable only to removable personal property of Tenant located within the Premises. In no event shall the address of the Premises, the Building or the Project be furnished on a financing statement without qualifying language as to applicability of the lien only to removable personal property located in an identified suite leased by Tenant. Should any holder of a financing statement record or place of record a financing statement that appears to constitute a lien against any interest of Landlord or against equipment that may be located other than within an identified suite leased by Tenant, Tenant shall, within ten (10) days after filing such financing statement, cause (a) a copy of the lender security agreement or other documents to which the financing statement pertains to be furnished to Landlord to facilitate Landlord's ability to demonstrate that the lien of such financing statement is not applicable to Landlord's interest and (b) Tenant's lender to amend such financing statement and any other documents of record to clarify that any liens imposed thereby are not applicable to any interest of Landlord in the Premises, the Building or the Project.

20. Estoppel Certificate. Tenant shall, within ten (10) business days after receipt of written notice from Landlord, execute, acknowledge and deliver a statement in writing substantially in the form attached to this Lease as Exhibit G, or on any other form reasonably requested by a current or proposed Lender or encumbrancer or proposed purchaser, (a) certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that this Lease as so modified is in full force and effect) and the dates to which rental and other charges are paid in advance, if any, (b) acknowledging that there are not, to Tenant's knowledge, any uncured defaults on the part of Landlord hereunder, or specifying such defaults if any are claimed, and (c) setting forth such further information with respect to this Lease or the Premises as may be requested thereon. Any such statements may be relied upon by any prospective purchaser or encumbrancer of all or any portion of the Property. Tenant's failure to deliver any such statement within such the prescribed time shall, at Landlord's option, constitute an Event of Default (as defined below) under this Lease, and, in any event, shall be binding upon Tenant that the Lease is in full force and effect and without modification except as may be represented by Landlord in any certificate prepared by Landlord and delivered to Tenant for execution.

21. Hazardous Materials.

21.1. Tenant shall not cause or permit any Hazardous Materials (as defined below) to be brought upon, kept or used in or about the Premises, the Building or the Project in violation of Applicable Laws by Tenant or any of its employees, agents, contractors or invitees (collectively with Tenant, each a "Tenant Party"). If (a) Tenant breaches such obligation, (b) the presence of Hazardous Materials as a result of such a breach results in contamination of the Project, any portion thereof, or any adjacent property, (c) contamination of the Premises otherwise occurs during the Term or any extension or renewal hereof or holding over hereunder as a result of a breach hereof by Tenant or any Tenant Party, or (d) contamination of the Project occurs as a result of Hazardous Materials that are placed on or under or are released into the Project by a Tenant Party, then Tenant shall indemnify, save, defend (at Landlord's option and with counsel reasonably acceptable to Landlord) and hold the Landlord Indemnitees harmless from and against any and all Claims of any kind or nature, including (w) diminution in value of the Project or any portion thereof, (x) damages for the

loss or restriction on use of rentable or usable space or of any amenity of the Project, (y) damages arising from any adverse impact on marketing of space in the Project or any portion thereof and (z) sums paid in settlement of Claims that arise before, during or after the Term as a result of such breach or contamination. This indemnification by Tenant includes costs incurred in connection with any investigation of site conditions or any clean-up, remedial, removal or restoration work required by any Governmental Authority because of Hazardous Materials present in the air, soil or groundwater above, on, under or about the Project. Without limiting the foregoing, if the presence of any Hazardous Materials in, on, under or about the Project, any portion thereof or any adjacent property caused or permitted by any Tenant Party results in any contamination of the Project, any portion thereof or any adjacent property, then Tenant shall promptly take all actions at its sole cost and expense as are necessary to return the Project, any portion thereof or any adjacent property to its respective condition existing prior to the time of such contamination; provided that Landlord's written approval of such action shall first be obtained, which approval Landlord shall not unreasonably withhold; and provided, further, that it shall be reasonable for Landlord to withhold its consent if such actions could have a material adverse long-term or short-term effect on the Project, any portion thereof or any adjacent property. Tenant's obligations under this Section shall not be affected, reduced or limited by any limitation on the amount or type of damages, compensation or benefits payable by or for Tenant under workers' compensation acts, disability benefit acts, employee benefit acts or similar legislation. Landlord warrants and represents to Tenant that as of the date of this Lease there are no Hazardous Materials or contamination in, at, under the Property, the Project, the Building or the Premises in violation of Applicable Laws.

21.2. Landlord acknowledges that it is not the intent of this Article to prohibit Tenant from operating its business for the Permitted Use. Tenant may operate its business according to the custom of Tenant's industry so long as the use or presence of Hazardous Materials is strictly and properly monitored in accordance with Applicable Laws. As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord (a) a list identifying each type of Hazardous Material to be present at the Premises that is subject to regulation under any environmental Applicable Laws, (b) a list of any and all approvals or permits from Governmental Authorities required in connection with the presence of such Hazardous Material at the Premises and (c) correct and complete copies of (i) notices of violations of Applicable Laws related to Hazardous Materials and (ii) plans relating to the installation of any storage tanks to be installed in, on, under or about the Project (provided that installation of storage tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent Landlord may withhold in its sole and absolute discretion) and closure plans or any other documents required by any and all Governmental Authorities for any storage tanks installed in, on, under or about the Project for the closure of any such storage tanks (collectively, "Hazardous Materials Documents"). Tenant shall deliver to Landlord updated Hazardous Materials Documents, within fourteen (14) days after receipt of a written request therefor from Landlord, not more often than once per year, unless (m) there are any changes to the Hazardous Materials Documents or (n) Tenant initiates any Alterations or changes its business, in either case in a way that involves any material increase in the types or amounts of Hazardous Materials. For each type of Hazardous Material listed, the Hazardous Materials Documents shall include (t) the chemical name, (u) the material state (e.g., solid, liquid, gas or cryogen), (v) the concentration, (w) the storage amount and storage condition (e.g., in cabinets or not in cabinets), (x) the use amount and use condition (e.g., open use or closed use), (y) the location (e.g., room

number or other identification) and (z) if known, the chemical abstract service number. Notwithstanding anything in this Section to the contrary, Tenant shall not be required to provide Landlord with any documents containing information of a proprietary nature, unless such documents contain a reference to Hazardous Materials or activities related to Hazardous Materials. Landlord may, at Landlord's expense, cause the Hazardous Materials Documents to be reviewed by a person or firm qualified to analyze Hazardous Materials to confirm compliance with the provisions of this Lease and with Applicable Laws. In the event that a review of the Hazardous Materials Documents indicates non-compliance with this Lease or Applicable Laws, Tenant shall, at its expense, diligently take steps to bring its storage and use of Hazardous Materials into compliance. Notwithstanding anything in this Lease to the contrary or Landlord's review into Tenant's Hazardous Materials Documents or use or disposal of hazardous materials, however, Landlord shall not have and expressly disclaims any liability related to Tenant's or other tenants' use or disposal of Hazardous Materials, it being acknowledged by Tenant that Tenant is best suited to evaluate the safety and efficacy of its Hazardous Materials usage and procedures.

21.3. Tenant represents and warrants to Landlord that it is not nor has it been, in connection with the use, disposal or storage of Hazardous Materials, (a) subject to a material enforcement order issued by any Governmental Authority or (b) required to take any remedial action.

21.4. At any time, and from time to time, prior to the expiration of the Term, Landlord shall have the right to conduct appropriate tests of the Project or any portion thereof to demonstrate that Hazardous Materials are present or that contamination has occurred due to the acts or omissions of a Tenant Party. Tenant shall pay all reasonable costs of such tests if such tests reveal that Hazardous Materials exist at the Project in violation of this Lease.

21.5. If underground or other storage tanks storing Hazardous Materials installed or utilized by Tenant are located on the Premises, or are hereafter placed on the Premises by Tenant (or by any other party, if such storage tanks are utilized by Tenant), then Tenant shall monitor the storage tanks, maintain appropriate records, implement reporting procedures, properly close any underground storage tanks, and take or cause to be taken all other steps necessary or required under the Applicable Laws. Tenant shall have no responsibility or liability for underground or other storage tanks installed by anyone other than Tenant unless Tenant utilizes such tanks, in which case Tenant's responsibility for such tanks shall be as set forth in this Section.

21.6. Tenant shall promptly report to Landlord any actual or suspected presence of mold or water intrusion at the Premises.

21.7. Tenant's obligations under this Article shall survive the expiration or earlier termination of the Lease. During any period of time needed by Tenant or Landlord after the termination of this Lease to complete the removal from the Premises of any such Hazardous Materials for which Tenant is responsible under this Lease, Tenant shall be deemed a holdover tenant and subject to the provisions of Article 27.

21.8. As used herein, the term "Hazardous Material" means any toxic, explosive, corrosive, flammable, infectious, radioactive, carcinogenic, mutagenic or otherwise hazardous substance, material or waste that is or becomes regulated by Applicable Laws or any Governmental Authority.

21.9. Notwithstanding anything to the contrary in this Lease, Landlord shall have sole control over the equitable allocation of fire control areas (as defined in the Uniform Building Code as adopted by the city or municipality(ies) in which the Project is located (the "UBC")) within the Project for the storage of Hazardous Materials. Notwithstanding anything to the contrary in this Lease, the quantity of Hazardous Materials allowed by this Section 21.9 is specific to Tenant and shall not run with the Lease in the event of a Transfer (as defined in Article 29). Tenant shall have the non-exclusive license, together with other tenants of the Building, to use Tenant's Pro Rata Share of the control areas (the "Control Areas") in the Building, and Tenant's use of such Control Areas shall be subject to any limitations set forth thereon. The license granted by Landlord in the immediately foregoing sentence is revocable by Landlord for any reason or no reason, in Landlord's sole and absolute discretion, provided, however, if Landlord revokes said license, then it will provide to Tenant another control area(s) in the Building in accordance with Tenant's Pro Rata Share of the Building. In the event of a Transfer, if the use of Hazardous Materials by such new tenant ("New Tenant") is such that New Tenant utilizes fire control areas in the Project in excess of New Tenant's Pro Rata Share of the Building or the Project, as applicable, then New Tenant shall, at its sole cost and expense and upon Landlord's written request, establish and maintain a separate area of the Premises classified by the UBC as an "H" occupancy area for the use and storage of Hazardous Materials, or take such other action as is necessary to ensure that its share of the fire control areas of the Building and the Project is not greater than New Tenant's Pro Rata Share of the Building or the Project, as applicable. Notwithstanding anything in this Lease to the contrary, Landlord shall not have and expressly disclaims any liability related to Tenant's or other tenants' use or disposal of fire control areas, it being acknowledged by Tenant that Tenant and other tenants are best suited to evaluate the safety and efficacy of its Hazardous Materials usage and procedures.

22. Odors and Exhaust. Tenant acknowledges that Landlord would not enter into this Lease with Tenant unless Tenant assured Landlord that under no circumstances will any other occupants of the Building or the Project (including persons legally present in any outdoor areas of the Project) be subjected to reasonably objectionable odors or fumes (whether or not noxious), and that the Building and the Project will not be damaged by any exhaust, in each case from Tenant's operations. Landlord and Tenant therefore agree as follows:

22.1. Tenant shall not cause or permit (or conduct any activities that would cause) any release of any reasonably objectionable odors or fumes of any kind from the Premises.

22.2. If the Building has a ventilation system that, in Landlord's reasonable judgment, is adequate, suitable, and appropriate to vent the Premises in a manner that does not release reasonably objectionable odors affecting any indoor or outdoor part of the Project, Tenant shall vent the Premises through such system. If Tenant's business operations materially change and Landlord at any time reasonably determines that any existing ventilation system is as a result of such change no longer adequate, Tenant shall in compliance with Applicable Laws vent all fumes and odors from the Premises (and remove odors from Tenant's exhaust stream) as Landlord reasonably requires. The placement and configuration of all ventilation exhaust pipes, louvers and other equipment shall be subject to Landlord's reasonable approval. Tenant acknowledges Landlord's legitimate desire to maintain the Project (indoor and outdoor areas) in a reasonably odor-free manner, and Landlord may require Tenant to abate and remove reasonably objectionable odors in a manner that goes beyond the requirements of Applicable Laws.

22.3. Tenant shall, at Tenant's sole cost and expense, provide odor eliminators and other devices (such as filters, air cleaners, scrubbers and whatever other equipment may in Landlord's judgment be necessary or appropriate from time to time) to remove, eliminate and abate any reasonably objectionable odors, fumes or other substances in Tenant's exhaust stream that, in Landlord's judgment, emanate from Tenant's Premises. Any work Tenant performs under this Section shall constitute Alterations.

22.4. Tenant's responsibility to remove, eliminate and abate reasonably objectionable odors, fumes and exhaust shall continue throughout the Term. Landlord's construction of the Landlord Work shall not preclude Landlord from requiring additional measures to eliminate reasonably objectionable odors, fumes and other adverse impacts of Tenant's exhaust stream (as Landlord may reasonably designate in Landlord's reasonable discretion). Tenant shall install additional equipment as Landlord reasonably requires from time to time under the preceding sentence. Such installations shall constitute Alterations.

22.5. If Tenant fails to install reasonably satisfactory odor control equipment within ten (10) business days after Landlord's demand made at any time, then Landlord may, without limiting Landlord's other rights and remedies, require Tenant to cease and suspend any operations in the Premises that, in Landlord's reasonable determination, cause reasonably objectionable odors, fumes or exhaust. For example, if Landlord determines that Tenant's production of a certain type of product causes reasonably objectionable odors, fumes or exhaust, and Tenant does not install reasonably satisfactory odor control equipment within ten (10) business days after Landlord's request, then Landlord may require Tenant to stop producing such type of product in the Premises unless and until Tenant has installed odor control equipment reasonably satisfactory to Landlord.

23. Insurance; Waiver of Subrogation.

23.1. Landlord shall maintain insurance for the Building and the Project in amounts equal to full replacement cost (exclusive of the costs of excavation, foundations and footings, engineering costs or such other costs to the extent the same are not incurred in the event of a rebuild and without reference to depreciation taken by Landlord upon its books or tax returns) or such lesser coverage as Landlord may elect, provided that such coverage shall not be less than the amount of such insurance Landlord's Lender, if any, requires Landlord to maintain, providing protection against any peril generally included within the classification "Special Form," together with insurance against sprinkler damage (if applicable), vandalism and malicious mischief. Landlord, subject to availability thereof, shall further insure, if Landlord deems it appropriate, coverage against flood, environmental hazard, earthquake, loss or failure of building equipment, rental loss during the period of repairs or rebuilding, Workers' Compensation insurance and fidelity bonds for employees employed to perform services. Notwithstanding the foregoing, Landlord may, but shall not be deemed required to, provide insurance for any improvements installed by Tenant or that are in addition to the standard improvements customarily furnished by Landlord, without regard to whether or not such are made a part of or are affixed to the Building.

23.2. In addition, Landlord shall carry Commercial General Liability insurance with limits of not less than One Million Dollars ($1,000,000) per occurrence/general aggregate for bodily injury (including death), or property damage with respect to the Project.

23.3. As of the earlier of the Term Commencement Date and the date of any early entry or occupancy by Tenant (if applicable), Tenant shall, at its own cost and expense, procure and maintain during the Term the following insurance for the benefit of Tenant and Landlord (as their interests may appear) with insurers financially acceptable and lawfully authorized to do business in the state where the Premises are located:

(a) Commercial General Liability insurance on a broad-based occurrence coverage form, with coverages including but not limited to bodily injury (including death), property damage (including loss of use resulting therefrom), premises/operations, personal & advertising injury, and contractual liability with limits of liability of not less than $5,000,000 for bodily injury and property damage per occurrence, $5,000,000 general aggregate, which limits may be met by use of excess and/or umbrella liability insurance provided that such coverage is at least as broad as the primary coverages required herein.

(b) Commercial Automobile Liability insurance covering liability arising from the use or operation of any auto, including those owned, hired or otherwise operated or used by or on behalf of the Tenant. The coverage shall be on a broad-based occurrence form with combined single limits of not less than $1,000,000 per accident for bodily injury and property damage.

(c) Property insurance covering property damage to the full replacement cost value and business interruption. Covered property shall include all tenant improvements in the Premises (to the extent not insured by Landlord pursuant to Section 23.1) and Tenant's Property including personal property, furniture, fixtures, machinery, equipment, stock, inventory and improvements and betterments, which may be owned by Tenant or Landlord and required to be insured hereunder, or which may be leased, rented, borrowed or in the care custody or control of Tenant, or Tenant's agents, employees or subcontractors. Such insurance, with respect only to all Alterations or other work performed on the Premises by Tenant (collectively, "Tenant Work"), shall name Landlord and Landlord's current and future mortgagees as loss payees as their interests may appear. Such insurance shall be written on an "all risk" of physical loss or damage basis including the perils of fire, extended coverage, electrical injury, mechanical breakdown, windstorm, vandalism, malicious mischief, sprinkler leakage, back-up of sewers or drains, flood, earthquake, terrorism and such other risks Landlord may from time to time designate, for the full replacement cost value of the covered items with an agreed amount endorsement with no co-insurance. Business interruption coverage shall have limits sufficient to cover Tenant's lost profits and necessary continuing expenses, including rents due Landlord under the Lease. The minimum period of indemnity for business interruption coverage shall be twelve (12) months plus twelve (12) months' extended period of indemnity.

(d) Workers' Compensation insurance as is required by statute or law, or as may be available on a voluntary basis and Employers' Liability insurance with limits of not less than the following: each accident, Five Hundred Thousand Dollars ($500,000); disease ($500,000); disease (each employee), Five Hundred Thousand Dollars ($500,000).

(e) Medical malpractice insurance at limits of not less than $1,000,000 each claim during such periods, if any, that Tenant engages in the practice of medicine at the Premises.

(f) Pollution Legal Liability insurance is required if Tenant stores, handles, generates or treats Hazardous Materials, as determined solely by Landlord, on or about the Premises. Such coverage shall include bodily injury, sickness, disease, death or mental anguish or shock sustained by any person; property damage including physical injury to or destruction of tangible property including the resulting loss of use thereof, clean-up costs, and the loss of use of tangible property that has not been physically injured or destroyed; non-owned disposal site liability; and defense costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensatory damages. Coverage shall apply to both sudden and non-sudden pollution conditions including the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water. Claims-made coverage is permitted, provided the policy retroactive date (which shall not be later than the earlier of the date immediately preceding the Term Commencement Date and the date of any early entry or occupancy by Tenant, if applicable), is continuously maintained, and coverage is continuously maintained during all periods in which Tenant occupies the Premises. Coverage shall be maintained with limits of not less than $1,000,000 per incident with a $3,000,000 policy aggregate and for a period of two (2) years thereafter.

(g) Cyber Liability Insurance in the amount of $1,000,000.

(h) During all construction by Tenant at the Premises, with respect to Tenant improvements being constructed (including any Alterations), insurance required in Exhibit H must be in place.

23.4. The insurance required of Tenant by this Article shall be with companies at all times having a current rating of not less than A- and financial category rating of at least Class VII in "A.M. Best's Insurance Guide" current edition. Tenant shall obtain for Landlord from the insurance companies/broker or cause the insurance companies/broker to furnish certificates of insurance evidencing all coverages required herein to Landlord. Landlord reserves the right to require complete, certified copies of all required insurance policies including any endorsements. No such policy shall be cancelable or subject to reduction of coverage or other modification or cancellation except after twenty (20) days' prior written notice to Landlord from Tenant or its insurers (except in the event of non-payment of premium, in which case ten (10) days' written notice shall be given). All such policies shall be written as primary policies, not contributing with and not in excess of the coverage that Landlord may carry. Tenant's required policies shall contain severability of interests clauses stating that, except with respect to limits of insurance, coverage shall apply separately to each insured or additional insured. Tenant shall, at least ten (10) business days prior to the expiration of such policies, furnish Landlord with renewal certificates of insurance or binders. Tenant agrees that if Tenant does not take out and maintain such insurance, Landlord may (but shall not be required to) procure such insurance on Tenant's behalf and at its cost to be paid by Tenant as Additional Rent. Commercial General Liability, Commercial Automobile Liability, Umbrella Liability and Pollution Legal Liability insurance as required above shall name Landlord and Jumbo Capital Incorporated, and their respective officers, employees, agents, general partners, members, subsidiaries, affiliates and Lenders ("Landlord Parties") as additional insureds as respects liability arising from work or operations performed by or on behalf of Tenant, Tenant's use or occupancy of Premises, and ownership, maintenance or use of vehicles by or on behalf of Tenant.

23.5. In each instance where insurance is to name Landlord Parties as additional insureds, Tenant shall, upon Landlord's written request, also designate and furnish certificates evidencing such Landlord Parties as additional insureds to (a) any Lender of Landlord holding a security interest in the Building or the Project, (b) the landlord under any lease whereunder Landlord is a tenant of the real property upon which the Building is located if the interest of Landlord is or shall become that of a tenant under a ground lease rather than that of a fee owner and (c) any management company retained by Landlord to manage the Project.

23.6. Tenant assumes the risk of damage to any fixtures, goods, inventory, merchandise, equipment and leasehold improvements, and Landlord shall not be liable for injury to Tenant's business or any loss of income therefrom, relative to such damage, all as more particularly set forth within this Lease. Tenant shall, at Tenant's sole cost and expense, carry such insurance as Tenant desires for Tenant's protection with respect to personal property of Tenant or business interruption.

23.7. Tenant and its insurers hereby waive any and all rights of recovery or subrogation against the Landlord Parties with respect to any loss, damage, claims, suits or demands, howsoever caused, that are covered, or should have been covered, by valid and collectible insurance, including any deductibles or self-insurance maintained thereunder. If necessary, Tenant agrees to endorse the required insurance policies to permit waivers of subrogation as required hereunder and hold harmless and indemnify the Landlord Parties for any loss or expense incurred as a result of a failure to obtain such waivers of subrogation from insurers. Such waivers shall continue so long as Tenant's insurers so permit. Any termination of such a waiver shall be by written notice to Landlord, containing a description of the circumstances hereinafter set forth in this Section. Tenant, upon obtaining the policies of insurance required or permitted under this Lease, shall give notice to its insurance carriers that the foregoing waiver of subrogation is contained in this Lease. If such policies shall not be obtainable with such waiver or shall be so obtainable only at a premium over that chargeable without such waiver, then Tenant shall notify Landlord of such conditions.

23.8. Landlord may require insurance policy limits required under this Lease to be raised to conform with requirements of Landlord's Lender or to bring coverage limits to levels then being required of new tenants within the Project.

23.9. Any costs incurred by Landlord pursuant to this Article shall constitute a portion of Operating Expenses.

23.10. The provisions of this Article 23 shall survive the expiration or earlier termination of this Lease.

24. Damage or Destruction.

24.1. In the event of a partial destruction of (a) the Premises or (b) Common Area of the Building or the Project ((a) and (b) together, the "Affected Areas") by fire or other perils covered by extended coverage insurance not exceeding twenty-five percent (25%) of the full insurable value thereof, and provided that (x) the damage thereto is such that the Affected Areas may be repaired, reconstructed or restored within a period of six (6) months from the date of the happening of such casualty, (y) Landlord shall receive insurance proceeds sufficient to cover the cost of such repairs, reconstruction and restoration (except for any deductible amount provided by Landlord's policy,

which deductible amount, if paid by Landlord, shall constitute an Operating Expense) and (z) such casualty was not intentionally caused by a Tenant Party, then Landlord shall commence and proceed diligently with the work of repair, reconstruction and restoration of the Affected Areas and this Lease shall continue in full force and effect.

24.2. In the event of any damage to or destruction of the Building or the Project other than as described in Section 24.1, Landlord may elect to repair, reconstruct and restore the Building or the Project, as applicable, in which case this Lease shall continue in full force and effect. If Landlord elects not to repair, reconstruct and restore the Building or the Project, as applicable, then this Lease shall terminate as of the date of such damage or destruction.

24.3. Landlord shall give written notice to Tenant within forty-five (45) days following the date of damage or destruction of its election not to repair, reconstruct or restore the Building or the Project, as applicable.

24.4. Upon any termination of this Lease under any of the provisions of this Article, the parties shall be released thereby without further obligation to the other from the date possession of the Premises is surrendered to Landlord, except with regard to (a) items occurring prior to the damage or destruction and (b) provisions of this Lease that, by their express terms, survive the expiration or earlier termination hereof.

24.5. In the event of repair, reconstruction and restoration as provided in this Article, all Rent to be paid by Tenant under this Lease shall be abated proportionately based on the extent to which Tenant's use of the Premises is impaired during the period of such repair, reconstruction or restoration, unless Landlord provides Tenant with other space during the period of repair, reconstruction and restoration that, in Tenant's reasonable opinion, is suitable for the temporary conduct of Tenant's business; provided, however, that the amount of such abatement shall be reduced by the amount of Rent that is received by Tenant as part of the business interruption or loss of rental income with respect to the Premises from the proceeds of business interruption or loss of rental income insurance.

24.6. Notwithstanding anything to the contrary contained in this Article, should Landlord be delayed or prevented from completing the repair, reconstruction or restoration of the damage or destruction to the Premises after the occurrence of such damage or destruction by Force Majeure or delays caused by a Tenant Party, then the time for Landlord to commence or complete repairs, reconstruction and restoration shall be extended on a day-for-day basis; provided, however, that, in no event shall Landlord be relieved of its obligation to make such repairs, reconstruction and restoration.

24.7. If Landlord is obligated to or elects to repair, reconstruct or restore as herein provided, then Landlord shall be obligated to make such repairs, reconstruction or restoration only with regard to (a) those portions of the Premises that were originally provided at Landlord's expense and (b) the Common Area portion of the Affected Areas. The repairs, reconstruction or restoration of improvements not originally provided by Landlord or at Landlord's expense shall be the obligation of Tenant. In the event Tenant has elected to upgrade certain improvements from the Building Standard, Landlord shall, upon the need for replacement due to an insured loss, provide only the Building Standard, unless Tenant again elects to upgrade such improvements and pay any

incremental costs related thereto, except to the extent that excess insurance proceeds, if received, are adequate to provide such upgrades, in addition to providing for basic repairs, reconstruction and restoration of the Premises, the Building and the Project.

24.8. Notwithstanding anything to the contrary contained in this Article, Landlord shall not have any obligation whatsoever to repair, reconstruct or restore the Premises if the damage resulting from any casualty covered under this Article occurs during the last twenty-four (24) months of the Term or any extension thereof, or to the extent that insurance proceeds are not available therefor.

24.9. Landlord's obligation, should it elect or be obligated to repair, reconstruct or restore, shall be limited to the Affected Areas, and shall be conditioned upon Landlord receiving any permits or authorizations required by Applicable Laws. Tenant shall, at its expense, replace or fully repair all of Tenant's personal property and any Alterations installed by Tenant existing at the time of such damage or destruction. If Affected Areas are to be repaired, reconstructed or restored in accordance with the foregoing, Landlord shall make available to Tenant any portion of insurance proceeds it receives that are allocable to the Alterations constructed by Tenant pursuant to this Lease; provided Tenant is not then in default under this Lease, and subject to the requirements of any Lender of Landlord.

24.10. This Article sets forth the terms and conditions upon which this Lease may terminate in the event of any damage or destruction. Accordingly, the parties hereby waive the provisions of any Applicable Laws (and any successor statutes) permitting the parties to terminate this Lease as a result of any damage or destruction.

25. Eminent Domain.

25.1. In the event (a) the whole of all Affected Areas or (b) such part thereof as shall substantially interfere with Tenant's use and occupancy of the Premises for the Permitted Use shall be taken for any public or quasi-public purpose by any lawful power or authority by exercise of the right of appropriation, condemnation or eminent domain, or sold to prevent such taking, Tenant or Landlord may terminate this Lease effective as of the date possession is required to be surrendered to such authority, except with regard to (y) items occurring prior to the taking and (z) provisions of this Lease that, by their express terms, survive the expiration or earlier termination hereof.

25.2. In the event of a partial taking of (a) the Building or the Project or (b) drives, walkways or parking areas serving the Building or the Project for any public or quasi-public purpose by any lawful power or authority by exercise of right of appropriation, condemnation, or eminent domain, or sold to prevent such taking, then, without regard to whether any portion of the Premises occupied by Tenant was so taken, Landlord may elect to terminate this Lease (except with regard to (y) items occurring prior to the taking and (z) provisions of this Lease that, by their express terms, survive the expiration or earlier termination hereof) as of such taking if such taking is, in Landlord's sole opinion, of a material nature such as to make it uneconomical to continue use of the unappropriated portion for purposes of renting office or laboratory space.

25.3. Tenant shall be entitled to any award that is specifically awarded as compensation for (a) the taking of Tenant's personal property that was installed at Tenant's expense and (b) the costs of Tenant moving to a new location. Except as set forth in the previous sentence, any award for such taking shall be the property of Landlord.

25.4. If, upon any taking of the nature described in this Article, this Lease continues in effect, then Landlord shall promptly proceed to restore the Affected Areas to substantially their same condition prior to such partial taking. To the extent such restoration is infeasible, as determined by Landlord in its sole and absolute discretion, the Rent shall be decreased proportionately to reflect the loss of any portion of the Premises no longer available to Tenant.

25.5. This Article sets forth the terms and conditions upon which this Lease may terminate in the event of any damage or destruction. Accordingly, the parties hereby waive the provisions of any Applicable Laws (and any successor statutes) permitting the parties to terminate this Lease as a result of any damage or destruction.

26. Surrender.

26.1. At least thirty (30) days prior to Tenant's surrender of possession of any part of the Premises, Tenant shall provide Landlord with a facility decommissioning and Hazardous Materials closure plan for the Premises ("Exit Survey") prepared by an independent third-party state-certified professional with appropriate expertise, which Exit Survey must be reasonably acceptable to Landlord. The Exit Survey shall comply with the American National Standards Institute's Laboratory Decommissioning guidelines (ANSI/AIHA Z9.11-2008) or any successor standards published by ANSI or any successor organization (or, if ANSI and its successors no longer exist, a similar entity publishing similar standards). In addition, at least ten (10) days prior to Tenant's surrender of possession of any part of the Premises, Tenant shall (a) provide Landlord with written evidence of all appropriate governmental releases obtained by Tenant in accordance with Applicable Laws, including laws pertaining to the surrender of the Premises, (b) place Laboratory Equipment Decontamination Forms on all decommissioned equipment to assure safe occupancy by future users and (c) conduct a site inspection with Landlord. In addition, Tenant agrees to remain responsible after the surrender of the Premises for the remediation of any recognized environmental conditions set forth in the Exit Survey and comply with any recommendations set forth in the Exit Survey. Tenant's obligations under this Section shall survive the expiration or earlier termination of the Lease.

26.2. No surrender of possession of any part of the Premises shall release Tenant from any of its obligations hereunder, unless such surrender is accepted in writing by Landlord.

26.3. The voluntary or other surrender of this Lease by Tenant shall not effect a merger with Landlord's fee title or leasehold interest in the Premises, the Building, the Property or the Project, unless Landlord consents in writing, and shall, at Landlord's option, operate as an assignment to Landlord of any or all subleases.

26.4. The voluntary or other surrender of any ground or other underlying lease that now exists or may hereafter be executed affecting the Building or the Project, or a mutual cancellation thereof or of Landlord's interest therein by Landlord and its lessor shall not effect a merger with Landlord's fee title or leasehold interest in the Premises, the Building or the Property and shall, at the option of the successor to Landlord's interest in the Building or the Project, as applicable, operate as an assignment of this Lease.

27. Holding Over.

27.1. If, following Tenant's written request and with Landlord's prior written consent, Tenant holds possession of all or any part of the Premises after the Term, Tenant shall become a tenant from month to month after the expiration or earlier termination of the Term, and in such case Tenant shall continue to pay (a) Base Rent in accordance with Article 7, as adjusted in accordance with Article 8, and (b) any amounts for which Tenant would otherwise be liable under this Lease if the Lease were still in effect, including payments for Tenant's Adjusted Share of Operating Expenses. Any such month-to-month tenancy shall be subject to every other term, covenant and agreement contained herein.

27.2. Notwithstanding the foregoing, if Tenant remains in possession of the Premises after the expiration or earlier termination of the Term without Landlord's prior written consent, (a) Tenant shall become a tenant at sufferance subject to the terms and conditions of this Lease, except that the monthly rent for the first thirty (30) days of such holdover shall be equal to one hundred fifty percent (150%) of the Rent in effect during the last thirty (30) days of the Term, and thereafter two hundred percent (200%) of the Rent in effect during the last thirty (30) days of the Term, and (b) Tenant shall be liable to Landlord for any and all damages suffered by Landlord as a result of such holdover, including any lost rent or consequential, special and indirect damages (in each case, regardless of whether such damages are foreseeable), provided that Tenant shall not be liable for any such any lost rent or consequential, special and indirect damages unless such holdover continues for more than sixty (60) days.

27.3. Acceptance by Landlord of Rent after the expiration or earlier termination of the Term shall not result in an extension, renewal or reinstatement of this Lease.

27.4. The foregoing provisions of this Article are in addition to and do not affect Landlord's right of reentry or any other rights of Landlord hereunder or as otherwise provided by Applicable Laws.

27.5. The provisions of this Article shall survive the expiration or earlier termination of this Lease.

28. Indemnification and Exculpation.

28.1. Tenant agrees to indemnify, save, defend (at Landlord's option and with counsel reasonably acceptable to Landlord) and hold the Landlord Indemnitees harmless from and against any and all Claims of any kind or nature, real or alleged, arising from injury to or death of any person or damage to any property occurring within or about the Premises, the Building, the Property or the Project, arising directly or indirectly out of (a) the presence at or use or occupancy of the Premises or Project by a Tenant Party, (b) an act or omission on the part of any Tenant Party, (c) a breach or default by Tenant in the performance of any of its obligations hereunder or (d) injury to or death of persons or damage to or loss of any property, real or alleged, arising from the serving of alcoholic beverages at the Premises or Project, including liability under any dram shop law, host liquor law or similar Applicable Law, except to the extent directly caused by Landlord's negligence or willful misconduct. Tenant's obligations under this Section shall not be affected,

reduced or limited by any limitation on the amount or type of damages, compensation or benefits payable by or for Tenant under workers' compensation acts, disability benefit acts, employee benefit acts or similar legislation. Tenant's obligations under this Section shall survive the expiration or earlier termination of this Lease.

28.2. Notwithstanding anything in this Lease to the contrary, Landlord shall not be liable to Tenant for and Tenant assumes all risk of (a) damage or losses caused by fire, electrical malfunction, gas explosion or water damage of any type (including broken water lines, malfunctioning fire sprinkler systems, roof leaks or stoppages of lines), unless any such loss is due to Landlord's willful disregard of written notice by Tenant of need for a repair that Landlord is responsible to make for an unreasonable period of time, and (b) damage to personal property or scientific research, including loss of records kept by Tenant within the Premises (in each case, regardless of whether such damages are foreseeable). Tenant further waives any claim for injury to Tenant's business or loss of income relating to any such damage or destruction of personal property as described in this Section. Notwithstanding anything in the foregoing or this Lease to the contrary, except (x) as otherwise provided herein (including Section 27.2), (y) as may be provided by Applicable Laws or (z) in the event of Tenant's breach of Article 21 or Section 26.1, in no event shall Landlord or Tenant be liable to the other for any consequential, special or indirect damages arising out of this Lease, including lost profits (provided that this Subsection 28.2(z) shall not limit Tenant's liability for Base Rent or Additional Rent pursuant to this Lease).

28.3. Landlord shall not be liable for any damages arising from any act, omission or neglect of any other tenant in the Building or the Project, or of any other third party.

28.4. Tenant acknowledges that security devices and services, if any, while intended to deter crime, may not in given instances prevent theft or other criminal acts. Landlord shall not be liable for injuries or losses caused by criminal acts of third parties, and Tenant assumes the risk that any security device or service may malfunction or otherwise be circumvented by a criminal. If Tenant desires protection against such criminal acts, then Tenant shall, at Tenant's sole cost and expense, obtain appropriate insurance coverage. Tenant's security programs and equipment for the Premises shall be coordinated with Landlord and subject to Landlord's reasonable approval.

28.5. The provisions of this Article shall survive the expiration or earlier termination of this Lease.

29. Assignment or Subletting.

29.1. Except as hereinafter expressly permitted, none of the following (each, a "Transfer"), either voluntarily or by operation of Applicable Laws, shall be directly or indirectly performed without Landlord's prior written consent: (a) Tenant selling, hypothecating, assigning, pledging, encumbering or otherwise transferring this Lease or subletting the Premises or (b) a controlling interest in Tenant being sold, assigned or otherwise transferred (other than as a result of shares in Tenant being sold on a public stock exchange). For purposes of the preceding sentence, "control" means (w) owning (directly or indirectly) more than fifty percent (50%) of the stock or other equity interests of another person or (x) possessing, directly or indirectly, the power to direct or cause the direction of the management and policies of such person. Notwithstanding the foregoing, Tenant shall have the right to Transfer, without Landlord's prior written consent, Tenant's interest in this

Lease or the Premises or any part thereof to any person that as of the date of determination and at all times thereafter directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with Tenant ("Tenant's Affiliate"); provided that Tenant shall notify Landlord in writing at least thirty (30) days prior to the effectiveness of such Transfer to Tenant's Affiliate (an "Exempt Transfer") and otherwise comply with the requirements of this Lease regarding such Transfer; and provided, further, that the person that will be the tenant under this Lease after the Exempt Transfer has the financial ability to fulfill Tenant's obligations hereunder as reasonably determined by Landlord. For purposes of the immediately preceding sentence, "control" requires both (y) owning (directly or indirectly) more than fifty percent (50%) of the stock or other equity interests of another person and (z) possessing, directly or indirectly, the power to direct or cause the direction of the management and policies of such person. In no event shall Tenant perform a Transfer to or with an entity that is a tenant at the Project or that is in discussions or negotiations with Landlord or an affiliate of Landlord to lease premises at the Project or a property owned by Landlord or an affiliate of Landlord. Notwithstanding anything in this Lease to the contrary, if (c) Tenant or any proposed transferee, assignee or sublessee of Tenant has been required by any prior landlord, Lender or Governmental Authority to take material remedial action in connection with Hazardous Materials contaminating a property if the contamination resulted from such party's action or omission or use of the property in question or (d) Tenant or any proposed transferee, assignee or sublessee is subject to a material enforcement order issued by any Governmental Authority in connection with the use, disposal or storage of Hazardous Materials, then Landlord shall have the right to terminate this Lease in Landlord's sole and absolute discretion (with respect to any such matter involving Tenant), and it shall not be unreasonable for Landlord to withhold its consent to any proposed transfer, assignment or subletting (with respect to any such matter involving a proposed transferee, assignee or sublessee).

29.2. In the event Tenant desires to effect a Transfer, then, at least thirty (30) days but not more than ninety (90) days prior to the date when Tenant desires the Transfer to be effective (the "Transfer Date"), Tenant shall provide written notice to Landlord (the "Transfer Notice") containing information (including references) concerning the character of the proposed transferee, assignee or sublessee; the Transfer Date; the most recent unconsolidated financial statements of Tenant and of the proposed transferee, assignee or sublessee satisfying the requirements of Section 40.2 ("Required Financials"); any ownership or commercial relationship between Tenant and the proposed transferee, assignee or sublessee; and the consideration and all other material terms and conditions of the proposed Transfer, all in such detail as Landlord shall reasonably require.

29.3. Landlord, in determining whether consent should be given to a proposed Transfer, may give consideration to (a) the financial strength of Tenant and of such transferee, assignee or sublessee (notwithstanding Tenant remaining liable for Tenant's performance), (b) any change in use that such transferee, assignee or sublessee proposes to make in the use of the Premises and (c) Landlord's desire to exercise its rights under Section 29.7 to cancel this Lease. In no event shall Landlord be deemed to be unreasonable for declining to consent to a Transfer to a transferee, assignee or sublessee of poor reputation, lacking financial qualifications or seeking a change in the Permitted Use, or jeopardizing directly or indirectly the status of Landlord or any of Landlord's affiliates as a Real Estate Investment Trust under the Internal Revenue Code of 1986 (as the same may be amended from time to time, the "Revenue Code"). Notwithstanding anything contained in this Lease to the contrary, (w) no Transfer shall be consummated on any basis such that the

rental or other amounts to be paid by the occupant, assignee, manager or other transferee thereunder would be based, in whole or in part, on the income or profits derived by the business activities of such occupant, assignee, manager or other transferee; (x) Tenant shall not furnish or render any services to an occupant, assignee, manager or other transferee with respect to whom transfer consideration is required to be paid, or manage or operate the Premises or any capital additions so transferred, with respect to which transfer consideration is being paid; (y) Tenant shall not consummate a Transfer with any person in which Landlord owns an interest, directly or indirectly (by applying constructive ownership rules set forth in Section 856(d)(5) of the Revenue Code); and (z) Tenant shall not consummate a Transfer with any person or in any manner that could cause any portion of the amounts received by Landlord pursuant to this Lease or any sublease, license or other arrangement for the right to use, occupy or possess any portion of the Premises to fail to qualify as "rents from real property" within the meaning of Section 856(d) of the Revenue Code, or any similar or successor provision thereto or which could cause any other income of Landlord to fail to qualify as income described in Section 856(c)(2) of the Revenue Code.

29.4. The following are conditions precedent to a Transfer or to Landlord considering a request by Tenant to a Transfer:

(a) Tenant shall remain fully liable under this Lease. Tenant agrees that it shall not be (and shall not be deemed to be) a guarantor or surety of this Lease, however, and waives its right to claim that is it is a guarantor or surety or to raise in any legal proceeding any guarantor or surety defenses permitted by this Lease or by Applicable Laws;

(b) If Tenant or the proposed transferee, assignee or sublessee does not or cannot deliver the Required Financials, then Landlord may elect to have either Tenant's ultimate parent company or the proposed transferee's, assignee's or sublessee's ultimate parent company provide a guaranty of the applicable entity's obligations under this Lease, in a form reasonably acceptable to Landlord, which guaranty shall be executed and delivered to Landlord by the applicable guarantor prior to the Transfer Date;

(c) In the case of an Exempt Transfer, Tenant shall provide Landlord with evidence reasonably satisfactory to Landlord that the Transfer qualifies as an Exempt Transfer;

(d) Tenant shall provide Landlord with evidence reasonably satisfactory to Landlord that the value of Landlord's interest under this Lease shall not be diminished or reduced by the proposed Transfer. Such evidence shall include evidence respecting the relevant business experience and financial responsibility and status of the proposed transferee, assignee or sublessee;

(e) Tenant shall reimburse Landlord for Landlord's actual costs and expenses, including reasonable attorneys' fees, charges and disbursements incurred in connection with the review, processing and documentation of such request up to a maximum of $3,000;

(f) Except with respect to an Exempt Transfer, if Tenant's transfer of rights or sharing of the Premises provides for the receipt by, on behalf of or on account of Tenant of any consideration of any kind whatsoever (including a premium rental for a sublease or lump sum payment for an assignment, but excluding Tenant's reasonable costs in marketing and subleasing

the Premises) in excess of the rental and other charges due to Landlord under this Lease, Tenant shall pay fifty percent (50%) of all of such excess to Landlord, after making deductions for any reasonable marketing expenses, tenant improvement funds expended by Tenant, alterations, cash concessions, brokerage commissions, attorneys' fees and free rent actually paid by Tenant. If such consideration consists of cash paid to Tenant, payment to Landlord shall be made upon receipt by Tenant of such cash payment;

(g) The proposed transferee, assignee or sublessee shall agree that, in the event Landlord gives such proposed transferee, assignee or sublessee notice that Tenant is in default under this Lease, such proposed transferee, assignee or sublessee shall thereafter make all payments otherwise due Tenant directly to Landlord, which payments shall be received by Landlord without any liability being incurred by Landlord, except to credit such payment against those due by Tenant under this Lease, and any such proposed transferee, assignee or sublessee shall agree to attorn to Landlord or its successors and assigns should this Lease be terminated for any reason; provided, however, that in no event shall Landlord or its Lenders, successors or assigns be obligated to accept such attornment;

(h) Landlord's consent to any such Transfer shall be effected on Landlord's forms;

(i) Tenant shall not then be in monetary or material non-monetary default hereunder in any respect;

(j) Such proposed transferee, assignee or sublessee's use of the Premises shall be the same as the Permitted Use;

(k) Landlord shall not be bound by any provision of any agreement pertaining to the Transfer, except for Landlord's written consent to the same;

(l) Tenant shall pay all transfer and other taxes (including interest and penalties) assessed or payable for any Transfer;

(m) Landlord's consent (or waiver of its rights) for any Transfer shall not waive Landlord's right to consent or refuse consent to any later Transfer;

(n) Tenant shall deliver to Landlord one executed copy of any and all written instruments evidencing or relating to the Transfer; and

(o) Tenant shall deliver to Landlord a list of Hazardous Materials (as defined below), certified by the proposed transferee, assignee or sublessee to be true and correct, that the proposed transferee, assignee or sublessee intends to use or store in the Premises. Additionally, Tenant shall deliver to Landlord, on or before the date any proposed transferee, assignee or sublessee takes occupancy of the Premises, all of the items relating to Hazardous Materials of such proposed transferee, assignee or sublessee as described in Section 21.2.

29.5. Any Transfer that is not in compliance with the provisions of this Article or with respect to which Tenant does not fulfill its obligations pursuant to this Article shall be void and shall, at the option of Landlord, terminate this Lease.

29.6. Notwithstanding any Transfer, Tenant shall remain fully and primarily liable for the payment of all Rent and other sums due or to become due hereunder, and for the full performance of all other terms, conditions and covenants to be kept and performed by Tenant. The acceptance of Rent or any other sum due hereunder, or the acceptance of performance of any other term, covenant or condition thereof, from any person or entity other than Tenant shall not be deemed a waiver of any of the provisions of this Lease or a consent to any Transfer.

29.7. If Tenant delivers to Landlord a Transfer Notice indicating a desire to transfer this Lease to a proposed transferee, assignee or sublessee, other than pursuant to an Exempt Transfer, then Landlord shall have the option, exercisable by giving notice to Tenant at any time within ten (10) business days after Landlord's receipt of such Transfer Notice, to terminate this Lease as of the date specified in the Transfer Notice as the Transfer Date, except for those provisions that, by their express terms, survive the expiration or earlier termination hereof. If Landlord exercises such option, then Tenant shall have the right to withdraw such Transfer Notice by delivering to Landlord written notice of such election within five (5) business days after Landlord's delivery of notice electing to exercise Landlord's option to terminate this Lease. In the event Tenant withdraws the Transfer Notice as provided in this Section, this Lease shall continue in full force and effect. No failure of Landlord to exercise its option to terminate this Lease shall be deemed to be Landlord's consent to a proposed Transfer.

29.8. If Tenant sublets the Premises or any portion thereof, Tenant hereby immediately and irrevocably assigns to Landlord, as security for Tenant's obligations under this Lease, all rent from any such subletting, and appoints Landlord as assignee and attorney-in-fact for Tenant, and Landlord (or a receiver for Tenant appointed on Landlord's application) may collect such rent and apply it toward Tenant's obligations under this Lease; provided that, until the occurrence of an Event of Default (as defined below) by Tenant, Tenant shall have the right to collect such rent.

30. Subordination and Attornment.

30.1. This Lease shall be subject and subordinate to the lien of any mortgage, deed of trust, or lease in which Landlord is tenant now or hereafter in force against the Building or the Project and to all advances made or hereafter to be made upon the security thereof without the necessity of the execution and delivery of any further instruments on the part of Tenant to effectuate such subordination.

30.2. Notwithstanding the foregoing, Tenant shall execute and deliver upon demand such further instrument or instruments evidencing such subordination of this Lease to the lien of any such mortgage or mortgages or deeds of trust or lease in which Landlord is tenant as may be required by Landlord. If any such mortgagee, beneficiary or landlord under a lease wherein Landlord is tenant (each, a "Mortgagee") so elects, however, this Lease shall be deemed prior in lien to any such lease, mortgage, or deed of trust upon or including the Premises regardless of date and Tenant shall execute a statement in writing to such effect at Landlord's request. If Tenant fails to execute any document required from Tenant under this Section within ten (10) days after written request therefor, Tenant hereby constitutes and appoints Landlord or its special attorney-in-fact to execute and deliver any such document or documents in the name of Tenant. Such power is coupled with an interest and is irrevocable. For the avoidance of doubt, "Mortgagees" shall also include historic tax credit investors and new market tax credit investors.

30.3. Upon written request of Landlord and opportunity for Tenant to review, Tenant agrees to execute any Lease amendments not materially altering the terms of this Lease, if required by a Mortgagee incident to the financing of the real property of which the Premises constitute a part.

30.4. In the event any proceedings are brought for foreclosure, or in the event of the exercise of the power of sale under any mortgage or deed of trust made by Landlord covering the Premises, Tenant shall at the election of the purchaser at such foreclosure or sale attorn to the purchaser upon any such foreclosure or sale and recognize such purchaser as Landlord under this Lease.

30.5. Notwithstanding anything to the contrary contained in this Article 30, Tenant shall not be required to subordinate this Lease and the lien hereof to the lien of any ground or underlying leases or to the lien of any mortgages or deeds of trust, in either case hereafter placed on, against or affecting the Building unless the holder of such lease or mortgage or deed of trust shall enter into an agreement with Tenant on such holder's standard form (with such commercially reasonable changes to which such holder and Tenant may mutually agree) to the effect that in the event of foreclosure of, or similar action taken under, such lease or mortgage or deed of trust, Tenant's possession of the Premises shall not be terminated or disturbed by such holder or anyone claiming under such holder so long as Tenant shall not be in default under this Lease ("SNDA"), which shall be executed, delivered and, at Tenant's expense, recorded.

30.6. Landlord represents and warrants that there are no Mortgagees other than JP Morgan ("Landlord's Lender"), and Landlord agrees to obtain Landlord's Lender's standard form of SNDA for execution and delivery contemporaneously with the execution and delivery of this Lease by Landlord and Tenant.

31. Defaults and Remedies.

31.1. Late payment by Tenant to Landlord of Rent and other sums due shall cause Landlord to incur costs not contemplated by this Lease, the exact amount of which shall be extremely difficult and impracticable to ascertain. Such costs include processing and accounting charges and late charges that may be imposed on Landlord by the terms of any mortgage or trust deed covering the Premises. Therefore, if any installment of Rent due from Tenant is not received by Landlord within ten (10) days after the date such payment is due, Tenant shall pay to Landlord (a) an additional sum of one and one-half percent (1.5%) of the overdue Rent as a late charge plus (b) interest at an annual rate (the "Default Rate") equal to the lesser of (a) twelve percent (12%) and (b) the highest rate permitted by Applicable Laws. The parties agree that this late charge represents a fair and reasonable estimate of the costs that Landlord shall incur by reason of late payment by Tenant and shall be payable as Additional Rent to Landlord due with the next installment of Rent or within five (5) business days after Landlord's demand, whichever is earlier. Landlord's acceptance of any Additional Rent (including a late charge or any other amount hereunder) shall not be deemed an extension of the date that Rent is due or prevent Landlord from pursuing any other rights or remedies under this Lease, at law or in equity. Notwithstanding the foregoing, Tenant shall not be required to pay any late charge as to the first late payment in any calendar year.

31.2. No payment by Tenant or receipt by Landlord of a lesser amount than the Rent payment herein stipulated shall be deemed to be other than on account of the Rent, nor shall any endorsement or statement on any check or any letter accompanying any check or payment as Rent

be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the balance of such Rent or pursue any other remedy provided in this Lease or in equity or at law. If a dispute shall arise as to any amount or sum of money to be paid by Tenant to Landlord hereunder, Tenant shall have the right to make payment "under protest," such payment shall not be regarded as a voluntary payment, and there shall survive the right on the part of Tenant to institute suit for recovery of the payment paid under protest.

31.3. If Tenant fails to pay any sum of money required to be paid by it hereunder or perform any other act on its part to be performed hereunder, in each case within the applicable cure period (if any) described in Section 31.4, then Landlord may (but shall not be obligated to), without waiving or releasing Tenant from any obligations of Tenant, make such payment or perform such act; provided that such failure by Tenant unreasonably interfered with the use of the Building or the Project by any other tenant or with the efficient operation of the Building or the Project, or resulted or could have resulted in a violation of Applicable Laws or the cancellation of an insurance policy maintained by Landlord. Notwithstanding the foregoing, in the event of an emergency, Landlord shall have the right to enter the Premises and act in accordance with its rights as provided elsewhere in this Lease. In addition to the late charge described in Section 31.1, Tenant shall pay to Landlord as Additional Rent all sums so paid or incurred by Landlord, together with interest at the Default Rate, computed from the date such sums were paid or incurred.

31.4. The occurrence of any one or more of the following events shall constitute an "Event of Default" hereunder by Tenant:

(a) Tenant abandons or vacates the Premises;

(b) Tenant fails to make any payment of Rent, as and when due, or to satisfy its obligations under Article 19, where such failure shall continue for a period of three (3) business days after written notice thereof from Landlord to Tenant, but if any such notice shall be given, for the twelve (12) month period commencing with the date of such notice, the failure to pay within three (3) business days after due any additional sum of money becoming due to be paid to Landlord under this Lease during such period shall be an Event of Default, without notice;

(c) Tenant fails to observe or perform any obligation or covenant contained herein (other than described in Sections 31.4(a) and 31.4(b)) to be performed by Tenant, where such failure continues for a period of ten (10) days after written notice thereof from Landlord to Tenant; provided that, if the nature of Tenant's default is such that it reasonably requires more than ten (10) days to cure, Tenant shall not be deemed to be in default if Tenant commences such cure within such ten (10) day period and thereafter diligently prosecutes the same to completion; and provided, further, that such cure is completed no later than thirty (30) days after Tenant's receipt of written notice from Landlord;

(d) Tenant makes an assignment for the benefit of creditors;

(e) A receiver, trustee or custodian is appointed to or does take title, possession or control of all or substantially all of Tenant's assets;

(f) Tenant files a voluntary petition under the United States Bankruptcy Code or any successor statute (as the same may be amended from time to time, the "Bankruptcy Code") or an order for relief is entered against Tenant pursuant to a voluntary or involuntary proceeding commenced under any chapter of the Bankruptcy Code;

(g) Any involuntary petition is filed against Tenant under any chapter of the Bankruptcy Code and is not dismissed within one hundred twenty (120) days;

(h) Tenant fails to deliver an estoppel certificate in accordance with Article 20; or

(i) Tenant's interest in this Lease is attached, executed upon or otherwise judicially seized and such action is not released within one hundred twenty (120) days of the action.

Notices given under this Section shall specify the alleged default and shall demand that Tenant perform the provisions of this Lease or pay the Rent that is in arrears, as the case may be, within the applicable period of time, or quit the Premises. No such notice shall be deemed a forfeiture or a termination of this Lease unless Landlord elects otherwise in such notice.

31.5. In the event of an Event of Default by Tenant, and at any time thereafter, with or without notice or demand and without limiting Landlord in the exercise of any right or remedy that Landlord may have, Landlord has the right to do any or all of the following:

(a) Halt any Tenant Improvements or Alterations and order Tenant's contractors, subcontractors, consultants, designers and material suppliers to stop work;

(b) Terminate Tenant's right to possession of the Premises by written notice to Tenant or by any lawful means, in which case Tenant shall immediately surrender possession of the Premises to Landlord. In such event, Landlord shall have the immediate right to re-enter and remove all persons and property, and such property may be removed and stored in a public warehouse or elsewhere at the cost and for the account of Tenant, all without service of notice or resort to legal process and without being deemed guilty of trespass or becoming liable for any loss or damage that may be occasioned thereby; and

(c) Terminate this Lease, in which event Tenant shall immediately surrender possession of the Premises to Landlord. In such event, Landlord shall have the immediate right to re-enter and remove all persons and property, and such property may be removed and stored in a public warehouse or elsewhere at the cost and for the account of Tenant, all without service of notice or resort to legal process and without being deemed guilty of trespass or becoming liable for any loss or damage that may be occasioned thereby. In the event that Landlord shall elect to so terminate this Lease, then Landlord shall be entitled to recover from Tenant all damages incurred by Landlord by reason of Tenant's Event of Default, including the sum of:

(i) The worth at the time of award of any unpaid Rent that had accrued at the time of such termination; plus

(ii) The costs of restoring the Premises to the condition required under the terms of this Lease; plus

(iii) An amount (the "Election Amount") equal to either (A) the positive difference (if any, and measured at the time of such termination) between (1) the then-present

value of the total Rent and other benefits that would have accrued to Landlord under this Lease for the remainder of the Term if Tenant had fully complied with the Lease minus (2) the then-present cash rental value of the Premises as determined by Landlord for what would be the then-unexpired Term if the Lease remained in effect, computed using the discount rate of the Federal Reserve Bank of San Francisco at the time of the award plus one (1) percentage point (the "Discount Rate") or (B) twelve (12) months (or such lesser number of months as may then be remaining in the Term) of Base Rent and Additional Rent at the rate last payable by Tenant pursuant to this Lease, in either case as Landlord specifies in such election. Landlord and Tenant agree that the Election Amount represents a reasonable forecast of the minimum damages expected to occur in the event of a breach, taking into account the uncertainty, time and cost of determining elements relevant to actual damages, such as fair market rent, time and costs that may be required to re-lease the Premises, and other factors; and that the Election Amount is not a penalty.

As used in Section 31.5(c)(i), "worth at the time of award" shall be computed by allowing interest at the Default Rate.

31.6. In addition to any other remedies available to Landlord at law or in equity and under this Lease, Landlord may continue this Lease in effect after Tenant's Event of Default or abandonment and recover Rent as it becomes due. In addition, Landlord shall not be liable in any way whatsoever for its failure or refusal to relet the Premises. For purposes of this Section, the following acts by Landlord will not constitute the termination of Tenant's right to possession of the Premises:

(a) Acts of maintenance or preservation or efforts to relet the Premises, including alterations, remodeling, redecorating, repairs, replacements or painting as Landlord shall consider advisable for the purpose of reletting the Premises or any part thereof; or

(b) The appointment of a receiver upon the initiative of Landlord to protect Landlord's interest under this Lease or in the Premises.

Notwithstanding the foregoing, in the event of an Event of Default by Tenant, Landlord may elect at any time to terminate this Lease and to recover damages to which Landlord is entitled.

31.7. If Landlord does not elect to terminate this Lease as provided in Section 31.5, then Landlord may, from time to time, recover all Rent as it becomes due under this Lease. At any time thereafter, Landlord may elect to terminate this Lease and to recover damages to which Landlord is entitled.

31.8. In the event Landlord elects to terminate this Lease and relet the Premises, Landlord may execute any new lease in its own name. Tenant hereunder shall have no right or authority whatsoever to collect any Rent from such tenant. The proceeds of any such reletting shall be applied as follows:

(a) First, to the payment of any indebtedness other than Rent due hereunder from Tenant to Landlord, including storage charges or brokerage commissions owing from Tenant to Landlord as the result of such reletting;

(b) Second, to the payment of the costs and expenses of reletting the Premises, including (i) alterations and repairs that Landlord deems reasonably necessary and advisable and (ii) reasonable attorneys' fees, charges and disbursements incurred by Landlord in connection with the retaking of the Premises and such reletting;

(c) Third, to the payment of Rent and other charges due and unpaid hereunder; and

(d) Fourth, to the payment of future Rent and other damages payable by Tenant under this Lease.

31.9. All of Landlord's rights, options and remedies hereunder shall be construed and held to be nonexclusive and cumulative. Landlord shall have the right to pursue any one or all of such remedies, or any other remedy or relief that may be provided by Applicable Laws, whether or not stated in this Lease. No waiver of any default of Tenant hereunder shall be implied from any acceptance by Landlord of any Rent or other payments due hereunder or any omission by Landlord to take any action on account of such default if such default persists or is repeated, and no express waiver shall affect defaults other than as specified in such waiver. Notwithstanding any provision of this Lease to the contrary, in no event shall Landlord be required to mitigate its damages with respect to any default by Tenant, except as required by Applicable Laws. Any such obligation imposed by Applicable Laws upon Landlord to relet the Premises after any termination of this Lease shall be subject to the reasonable requirements of Landlord to (a) lease to high quality tenants on such terms as Landlord may from time to time deem appropriate in its discretion and (b) develop the Project in a harmonious manner with a mix of uses, tenants, floor areas, terms of tenancies, etc., as determined by Landlord. Landlord shall not be obligated to relet the Premises to (y) any Tenant's Affiliate or (z) any party (i) unacceptable to a Lender, (ii) that requires Landlord to make improvements to or re-demise the Premises, (iii) that desires to change the Permitted Use, (iv) that desires to lease the Premises for more or less than the remaining Term or (v) to whom Landlord or an affiliate of Landlord may desire to lease other available space in the Project or at another property owned by Landlord or an affiliate of Landlord.

31.10. Landlord's termination of (a) this Lease or (b) Tenant's right to possession of the Premises shall not relieve Tenant of any liability to Landlord that has previously accrued or that shall arise based upon events that occurred prior to the later to occur of (y) the date of Lease termination and (z) the date Tenant surrenders possession of the Premises.

31.11. To the extent permitted by Applicable Laws, Tenant waives any and all rights of redemption granted by or under any present or future Applicable Laws if Tenant is evicted or dispossessed for any cause, or if Landlord obtains possession of the Premises due to Tenant's default hereunder or otherwise.

31.12. Landlord shall not be in default or liable for damages under this Lease unless Landlord fails to perform obligations required of Landlord within a reasonable time, but in no event shall such failure continue for more than thirty (30) days after written notice from Tenant specifying the nature of Landlord's failure; provided, however, that if the nature of Landlord's obligation is such that more than thirty (30) days are required for its performance, then Landlord shall not be in default if Landlord commences performance within such thirty (30) day period and thereafter diligently prosecutes the same to completion. In no event shall Tenant have the right to terminate

or cancel this Lease or to withhold or abate rent or to set off any Claims against Rent as a result of any default or breach by Landlord of any of its covenants, obligations, representations, warranties or promises hereunder, except as may otherwise be expressly set forth in this Lease.

31.13. In the event of any default by Landlord, Tenant shall give notice by registered or certified mail to any (a) beneficiary of a deed of trust or (b) mortgagee under a mortgage covering the Premises, the Building or the Project and to any landlord of any lease of land upon or within which the Premises, the Building or the Project is located, and shall offer such beneficiary, mortgagee or landlord a reasonable opportunity to cure the default, including time to obtain possession of the Building or the Project by power of sale or a judicial action if such should prove necessary to effect a cure; provided that Landlord shall furnish to Tenant in writing, upon written request by Tenant, the names and addresses of all such persons who are to receive such notices.

32. Bankruptcy. In the event a debtor, trustee or debtor in possession under the Bankruptcy Code, or another person with similar rights, duties and powers under any other Applicable Laws, proposes to cure any default under this Lease or to assume or assign this Lease and is obliged to provide adequate assurance to Landlord that (a) a default shall be cured, (b) Landlord shall be compensated for its damages arising from any breach of this Lease and (c) future performance of Tenant's obligations under this Lease shall occur, then such adequate assurances shall include any or all of the following, as designated by Landlord in its sole and absolute discretion:

32.1. Those acts specified in the Bankruptcy Code or other Applicable Laws as included within the meaning of "adequate assurance," even if this Lease does not concern a shopping center or other facility described in such Applicable Laws;

32.2. A prompt cash payment to compensate Landlord for any monetary defaults or actual damages arising directly from a breach of this Lease;

32.3. A cash deposit in an amount at least equal to the then-current amount of the Security Deposit; or

32.4. The assumption or assignment of all of Tenant's interest and obligations under this Lease.

33. Brokers.

33.1. Each of Tenant and Landlord represents and warrants to each other that it has had no dealings with any real estate broker or agent in connection with the negotiation of this Lease other than T3 Advisors and CBRE (collectively, "Broker"), and that it knows of no other real estate broker or agent that is or might be entitled to a commission in connection with this Lease. Landlord shall compensate Broker in relation to this Lease pursuant to a separate agreement(s) between Landlord and Broker.

33.2. Tenant represents and warrants that no broker or agent has made any representation or warranty relied upon by Tenant in Tenant's decision to enter into this Lease, other than as contained in this Lease.

33.3. Tenant acknowledges and agrees that the employment of brokers by Landlord is for the purpose of solicitation of offers of leases from prospective tenants and that no authority is granted

to any broker to furnish any representation (written or oral) or warranty from Landlord unless expressly contained within this Lease. Landlord is executing this Lease in reliance upon Tenant's representations, warranties and agreements contained within Sections 33.1 and 33.2.

33.4. Tenant agrees to indemnify, save, defend (at Landlord's option and with counsel reasonably acceptable to Landlord) and hold the Landlord Indemnitees harmless from any and all cost or liability for compensation claimed by any broker or agent, other than Broker, employed or engaged by Tenant or claiming to have been employed or engaged by Tenant. Landlord agrees to indemnify, save, defend (at Tenant's option and with counsel reasonably acceptable to Tenant) and hold the Tenant Indemnitees harmless from any and all cost or liability for compensation claimed by any broker or agent, other than Broker, employed or engaged by Landlord or claiming to have been employed or engaged by Landlord.

34. Definition of Landlord. With regard to obligations imposed upon Landlord pursuant to this Lease, the term "Landlord," as used in this Lease, shall refer only to Landlord or Landlord's then-current successor-in-interest. In the event of any transfer, assignment or conveyance of Landlord's interest in this Lease or in Landlord's fee title to or leasehold interest in the Property, as applicable, Landlord herein named (and in case of any subsequent transfers or conveyances, the subsequent Landlord) shall be automatically freed and relieved, from and after the date of such transfer, assignment or conveyance, from all liability for the performance of any covenants or obligations contained in this Lease thereafter to be performed by Landlord and, without further agreement, the transferee, assignee or conveyee of Landlord's in this Lease or in Landlord's fee title to or leasehold interest in the Property, as applicable, shall be deemed to have assumed and agreed to observe and perform any and all covenants and obligations of Landlord hereunder during the tenure of its interest in the Lease or the Property. Landlord or any subsequent Landlord may transfer its interest in the Premises or this Lease without Tenant's consent.

35. Limitation of Landlord's Liability.

35.1. If Landlord is in default under this Lease and, as a consequence, Tenant recovers a monetary judgment against Landlord, the judgment shall be satisfied only out of (a) the proceeds of sale received on execution of the judgment and levy against the right, title and interest of Landlord in the Building and the Project, (b) rent or other income from such real property receivable by Landlord or (c) the consideration received by Landlord from the sale, financing, refinancing or other disposition of all or any part of Landlord's right, title or interest in the Building or the Project.

35.2. Neither Landlord nor any of its affiliates, nor any of their respective partners, shareholders, directors, officers, employees, members or agents shall be personally liable for Landlord's obligations or any deficiency under this Lease, and service of process shall not be made against any shareholder, director, officer, employee or agent of Landlord or any of Landlord's affiliates. No partner, shareholder, director, officer, employee, member or agent of Landlord or any of its affiliates shall be sued or named as a party in any suit or action, and service of process shall not be made against any partner or member of Landlord except as may be necessary to secure jurisdiction of the partnership, joint venture or limited liability company, as applicable. No partner, shareholder, director, officer, employee, member or agent of Landlord or any of its affiliates shall be required to answer or otherwise plead to any service of process, and no judgment shall be taken or writ of execution levied against any partner, shareholder, director, officer, employee, member or agent of Landlord or any of its affiliates.

35.3. Tenant agrees to use and occupy the Premises, and to use such other portions of the Building and the Project as Tenant is given the right to use by this Lease at Tenant's own risk. The Landlord Parties shall not be liable to the Tenant Parties for any damage, injury, loss, compensation, or claim (including, but not limited to, claims for the interruption of or loss to a Tenant Party's business) based on, arising out of or resulting from any cause whatsoever, including, but not limited to, repairs to any portion of the Premises or the Building or the Project, any fire, robbery, theft, mysterious disappearance, or any other crime or casualty, any cyber-attack affecting the Building, systems or any computer systems in the Premises, the actions of any other tenants of the Building or of any other person or persons, or any leakage in any part or portion of the Premises or the Building or the Project, or from water, rain or snow that may leak into, or flow from any part of the Premises or the Building or the Project, or from drains, pipes or plumbing fixtures in the Building or the Project. Any goods, property or personal effects stored or placed in or about the Premises shall be at the sole risk of the Tenant Party, and neither the Landlord Parties nor their insurers shall in any manner be held responsible therefor. The Landlord Parties shall not be responsible or liable to a Tenant Party, or to those claiming by, through or under a Tenant Party, for any loss or damage that may be occasioned by or through the acts or omissions of persons occupying adjoining premises or any part of the premises adjacent to or connecting with the Premises or any part of the Building or otherwise. The provisions of this section shall be applicable to the fullest extent permitted by law, and until the expiration or earlier termination of the Lease Term, and during such further period as Tenant or anyone acting by, through or under Tenant is in occupancy of any part of the Premises or of the Building. Notwithstanding anything contained herein to the contrary, the provisions of this Section 35.3 shall not apply to the extent of Landlord's negligence.

35.4. Each of the covenants and agreements of this Article shall be applicable to any covenant or agreement either expressly contained in this Lease or imposed by Applicable Laws and shall survive the expiration or earlier termination of this Lease.

36. Joint and Several Obligations. If more than one person or entity executes this Lease as Tenant, then:

36.1. Each of them is jointly and severally liable for the keeping, observing and performing of all of the terms, covenants, conditions, provisions and agreements of this Lease to be kept, observed or performed by Tenant, and such terms, covenants, conditions, provisions and agreements shall be binding with the same force and effect upon each and all of the persons executing this Agreement as Tenant; and

36.2. The term "Tenant," as used in this Lease, shall mean and include each of them, jointly and severally. The act of, notice from, notice to, refund to, or signature of any one or more of them with respect to the tenancy under this Lease, including any renewal, extension, expiration, termination or modification of this Lease, shall be binding upon each and all of the persons executing this Lease as Tenant with the same force and effect as if each and all of them had so acted, so given or received such notice or refund, or so signed.

37. Representations. Tenant guarantees, warrants and represents that (a) Tenant is duly incorporated or otherwise established or formed and validly existing under the laws of its state of incorporation, establishment or formation, (b) Tenant has and is duly qualified to do business in the state in which the Property is located, (c) Tenant has full corporate, partnership, trust, association or other appropriate power and authority to enter into this Lease and to perform all Tenant's obligations hereunder, (d) each person (and all of the persons if more than one signs) signing this Lease on behalf of Tenant is duly and validly authorized to do so and (e) neither (i) the execution, delivery or performance of this Lease nor (ii) the consummation of the transactions contemplated hereby will violate or conflict with any provision of documents or instruments under which Tenant is constituted or to which Tenant is a party. In addition, Tenant guarantees, warrants and represents that none of (x) it, (y) its affiliates or partners nor (z) to the best of its knowledge, its members, shareholders or other equity owners or any of their respective employees, officers, directors, representatives or agents is a person or entity with whom U.S. persons or entities are restricted from doing business under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including those named on OFAC's Specially Designated and Blocked Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism) or other similar governmental action.

38. Confidentiality. Tenant shall keep the terms and conditions of this Lease and any information provided to Tenant or its employees, agents or contractors pursuant to Article 9 confidential and shall not (a) disclose to any third party any terms or conditions of this Lease or any other Lease-related document (including subleases, assignments, work letters, construction contracts, letters of credit, subordination agreements, non-disturbance agreements, brokerage agreements or estoppels) or (b) provide to any third party an original or copy of this Lease (or any Lease-related document). Landlord shall not release to any third party any non-public financial information or non-public information about Tenant's ownership structure that Tenant gives Landlord. Notwithstanding the foregoing, confidential information under this Section may be released by Landlord or Tenant under the following circumstances: (x) if required by Applicable Laws or in any judicial proceeding; provided that the releasing party has given the other party reasonable notice of such requirement, if feasible, (y) to a party's attorneys, accountants, brokers and other bona fide consultants or advisers (with respect to this Lease only); provided such third parties agree to be bound by this Section or (z) to bona fide prospective assignees or subtenants of this Lease; provided they agree in writing to be bound by this Section. In the event Tenant is required by law to provide this Lease or disclose any of its terms, Tenant shall give Landlord prompt notice of such requirement prior to making disclosure so that Landlord may seek an appropriate protective order; provided, however, that the requirements set forth in this sentence shall not apply in connection with any disclosure to the extent required by law to satisfy filing requirements of a publicly listed company (provided Tenant shall give reasonable prior written notice to Landlord thereof and shall redact from any disclosure of this Lease any sensitive or confidential information if and to the extent permitted under applicable Securities and Exchange Commission ("SEC") rules and regulations). Nothing contained in this Lease is intended to prohibit Tenant from filing this Lease with the SEC to the extent that Tenant is required to do so pursuant to applicable SEC requirements. Prior to any such filing of this Lease, Tenant shall redact the Base Rent and other economic terms to the extent permitted by applicable SEC regulations.

39. Notices . Except as otherwise stated in this Lease, any notice, consent, demand, invoice, statement or other communication required or permitted to be given hereunder shall be in writing and shall be given by (a) personal delivery, (b) overnight delivery with a reputable international overnight delivery service, such as FedEx, or (c) facsimile or email transmission, so long as such transmission is followed within one (1) business day by delivery utilizing one of the methods described in Subsection 39(a) or (b). Any such notice, consent, demand, invoice, statement or other communication shall be deemed delivered (x) upon receipt, if given in accordance with Subsection 39(a); (y) one (1) business day after deposit with a reputable international overnight delivery service, if given if given in accordance with Subsection 39(b); or (z) upon transmission, if given in accordance with Subsection 39(c). Except as otherwise stated in this Lease, any notice, consent, demand, invoice, statement or other communication required or permitted to be given pursuant to this Lease shall be addressed to Tenant at the Premises, or to Landlord or Tenant at the addresses shown in Sections 2.9 and 2.10 or 2.11, respectively. Either party may, by notice to the other given pursuant to this Section, specify additional or different addresses for notice purposes.

40. Miscellaneous.

40.1. Landlord reserves the right to change the name of the Building or the Project in its sole discretion.

40.2. To induce Landlord to enter into this Lease, Tenant agrees that it shall promptly furnish to Landlord, from time to time, upon Landlord's written request, the most recent year-end consolidated financial statements reflecting Tenant's current financial condition audited by a nationally recognized accounting firm (except if the named Tenant under this Lease is not the ultimate parent company, such financial statements shall be unconsolidated financial statements of Tenant). Tenant shall, within ninety (90) days after the end of Tenant's financial year, furnish Landlord with a certified copy of Tenant's year-end consolidated financial statements for the previous year certified by Tenant's chief financial officer; provided, however, if the named Tenant under this Lease is not the ultimate parent company, then such required financial statements shall be unconsolidated financial statements of Tenant. Additionally, Tenant shall, within one hundred eighty (180) days after the end of Tenant's financial year, furnish Landlord with Tenant's year-end consolidated financial statements audited by a nationally recognized accounting firm; provided, however, if the named Tenant under this Lease is not the ultimate parent company, then such required financial statements shall be unconsolidated financial statements of Tenant. Tenant represents and warrants that all financial statements, records and information furnished by Tenant to Landlord in connection with this Lease are true, correct and complete in all respects. If audited financials are not otherwise prepared, unaudited financials complying with generally accepted accounting principles and certified by the chief financial officer of Tenant as true, correct and complete in all respects shall suffice for purposes of this Section. The provisions of this Section shall not apply at any time while Tenant is a corporation whose shares are traded on any nationally recognized stock exchange.

40.3. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of or option for a lease, and shall not be effective as a lease or otherwise until execution by and delivery to both Landlord and Tenant.

40.4. The terms of this Lease are intended by the parties as a final, complete and exclusive expression of their agreement with respect to the terms that are included herein, and may not be contradicted or supplemented by evidence of any other prior or contemporaneous agreement.

40.5. Landlord and Tenant shall execute and record a short form notice of lease (a "Notice of Lease"). Simultaneously with the execution of any Notice of Lease, Tenant shall execute a recordable termination of such Notice of Lease (the "Termination Notice"), which Termination Notice shall be held in escrow by Landlord and may be released from escrow and recorded by Landlord after the expiration or earlier termination of this Lease. Tenant shall be responsible for the cost of recording any short form or memorandum of this Lease, including any transfer or other taxes incurred in connection with such recordation. Neither party shall record this Lease.

40.6. Where applicable in this Lease, the singular includes the plural and the masculine or neuter includes the masculine, feminine and neuter. The words "include," "includes," "included" and "including" mean "'include,' etc., without limitation." The word "shall" is mandatory and the word "may" is permissive. The section headings of this Lease are not a part of this Lease and shall have no effect upon the construction or interpretation of any part of this Lease. Landlord and Tenant have each participated in the drafting and negotiation of this Lease, and the language in all parts of this Lease shall be in all cases construed as a whole according to its fair meaning and not strictly for or against either Landlord or Tenant.

40.7. Except as otherwise expressly set forth in this Lease, each party shall pay its own costs and expenses incurred in connection with this Lease and such party's performance under this Lease; provided that, if either party commences an action, proceeding, demand, claim, action, cause of action or suit against the other party arising out of or in connection with this Lease, then the substantially prevailing party shall be reimbursed by the other party for all reasonable costs and expenses, including reasonable attorneys' fees and expenses, incurred by the substantially prevailing party in such action, proceeding, demand, claim, action, cause of action or suit, and in any appeal in connection therewith (regardless of whether the applicable action, proceeding, demand, claim, action, cause of action, suit or appeal is voluntarily withdrawn or dismissed).

40.8. Time is of the essence with respect to the performance of every provision of this Lease.

40.9. Each provision of this Lease performable by Tenant shall be deemed both a covenant and a condition.

40.10. Notwithstanding anything to the contrary contained in this Lease, Tenant's obligations under this Lease are independent and shall not be conditioned upon performance by Landlord.

40.11. Whenever consent or approval of either party is required, that party shall not unreasonably withhold, condition or delay such consent or approval, except as may be expressly set forth to the contrary.

40.12. Any provision of this Lease that shall prove to be invalid, void or illegal shall in no way affect, impair or invalidate any other provision hereof, and all other provisions of this Lease shall remain in full force and effect and shall be interpreted as if the invalid, void or illegal provision did not exist.

40.13. Each of the covenants, conditions and agreements herein contained shall inure to the benefit of and shall apply to and be binding upon the parties hereto and their respective heirs; legatees; devisees; executors; administrators; and permitted successors and assigns. This Lease is for the sole benefit of the parties and their respective heirs, legatees, devisees, executors, administrators and permitted successors and assigns, and nothing in this Lease shall give or be construed to give any other person or entity any legal or equitable rights. Nothing in this Section shall in any way alter the provisions of this Lease restricting assignment or subletting.

40.14. This Lease shall be governed by, construed and enforced in accordance with the laws of the state in which the Premises are located, without regard to such state's conflict of law principles.

40.15. Tenant guarantees, warrants and represents that the individual or individuals signing this Lease have the power, authority and legal capacity to sign this Lease on behalf of and to bind all entities, corporations, partnerships, limited liability companies, joint venturers or other organizations and entities on whose behalf such individual or individuals have signed.

40.16. This Lease may be executed in one or more counterparts, each of which, when taken together, shall constitute one and the same document. The parties acknowledge and agree that this Lease may be executed via .pdf format (including computer-scanned or other electronic reproduction of the actual signatures) and that delivery of a signature by electronic or physical means shall be effective to the same extent as delivery of an original signature. Notwithstanding the foregoing, originally signed documents shall be provided upon either party's request.

40.17. No provision of this Lease may be modified, amended or supplemented except by an agreement in writing signed by Landlord and Tenant.

40.18. No waiver of any term, covenant or condition of this Lease shall be binding upon Landlord unless executed in writing by Landlord. The waiver by Landlord of any breach or default of any term, covenant or condition contained in this Lease shall not be deemed to be a waiver of any preceding or subsequent breach or default of such term, covenant or condition or any other term, covenant or condition of this Lease.

40.19. To the extent permitted by Applicable Laws, the parties waive trial by jury in any action, proceeding or counterclaim brought by the other party hereto related to matters arising out of or in any way connected with this Lease; the relationship between Landlord and Tenant; Tenant's use or occupancy of the Premises; or any claim of injury or damage related to this Lease or the Premises.

41. Rooftop Installation Area.

41.1. Tenant may use those mutually agreed upon location portions of the Building (the "Rooftop Installation Area") solely to operate, maintain, repair and replace rooftop antennae, mechanical equipment, communications antennas and other equipment installed by Tenant in the Rooftop Installation Area in accordance with this Article ("Tenant's Rooftop Equipment"). Tenant's Rooftop Equipment shall be only for Tenant's use of the Premises for the Permitted Use.

41.2. Tenant shall install Tenant's Rooftop Equipment at its sole cost and expense, at such times and in such manner as Landlord may reasonably designate, and in accordance with this Article and

the applicable provisions of this Lease regarding Alterations. Tenant's Rooftop Equipment and the installation thereof shall be subject to Landlord's prior written approval, which approval shall not be unreasonably withheld. Among other reasons, Landlord may withhold approval if the installation or operation of Tenant's Rooftop Equipment could reasonably be expected to damage the structural integrity of the Building or to transmit vibrations or noise or cause other adverse effects beyond the Premises to an extent not customary in first class laboratory buildings, unless Tenant implements measures that are acceptable to Landlord in its reasonable discretion to avoid any such damage or transmission.

41.3. Tenant shall comply with any roof or roof-related warranties. Tenant shall obtain a letter from Landlord's roofing contractor within thirty (30) days after completion of any Tenant work on the rooftop stating that such work did not affect any such warranties. Tenant, at its sole cost and expense, shall inspect the Rooftop Installation Area at least annually, and correct any loose bolts, fittings or other appurtenances and repair any damage to the roof caused by the installation or operation of Tenant's Rooftop Equipment. Tenant shall not permit the installation, maintenance or operation of Tenant's Rooftop Equipment to violate any Applicable Laws or constitute a nuisance. Tenant shall pay Landlord within thirty (30) days after demand (a) all applicable taxes, charges, fees or impositions imposed on Landlord by Governmental Authorities as the result of Tenant's use of the Rooftop Installation Areas in excess of those for which Landlord would otherwise be responsible for the use or installation of Tenant's Rooftop Equipment and (b) the amount of any increase in Landlord's insurance premiums as a result of the installation of Tenant's Rooftop Equipment. Upon Tenant's written request to Landlord, Landlord shall use commercially reasonable efforts to cause other tenants to remedy any interference in the operation of Tenant's Rooftop Equipment caused by any such tenants' equipment installed after the applicable piece of Tenant's Rooftop Equipment; provided, however, that Landlord shall not be required to request that such tenants waive their rights under their respective leases.

41.4. If Tenant's Rooftop Equipment (a) causes physical damage to the structural integrity of the Building, (b) interferes with any telecommunications, mechanical or other systems located at or near or servicing the Building or the Project that were installed prior to the installation of Tenant's Rooftop Equipment, (c) interferes with any other service provided to other tenants in the Building or the Project by rooftop or penthouse installations that were installed prior to the installation of Tenant's Rooftop Equipment or (d) interferes with any other tenants' business, in each case in excess of that permissible under Federal Communications Commission regulations, then Tenant shall cooperate with Landlord to determine the source of the damage or interference and promptly repair such damage and eliminate such interference, in each case at Tenant's sole cost and expense, within ten (10) days after receipt of notice of such damage or interference (which notice may be oral; provided that Landlord also delivers to Tenant written notice of such damage or interference within twenty-four (24) hours after providing oral notice).

41.5. Landlord reserves the right to cause Tenant to relocate Tenant's Rooftop Equipment to comparably functional space on the roof or in the penthouse of the Building by giving Tenant prior written notice thereof. Landlord agrees to pay the reasonable costs thereof. Tenant shall arrange for the relocation of Tenant's Rooftop Equipment within sixty (60) days after receipt of Landlord's notification of such relocation. In the event Tenant fails to arrange for relocation within such sixty (60)-day period, Landlord shall have the right to arrange for the relocation of Tenant's Rooftop Equipment in a manner that does not unnecessarily interrupt or interfere with Tenant's use of the Premises for the Permitted Use.

42. Option to Extend Term. Tenant shall have one (1) option (the "Option") to extend the Term by five (5) years as to the entire Premises (and no less than the entire Premises) upon the following terms and conditions. Any extension of the Term pursuant to the Option shall be on all the same terms and conditions as this Lease, except as follows:

42.1. Base Rent at the commencement of the Option term shall equal the then-current fair market value for comparable office and laboratory space in the Burlington/128 submarket of comparable age, quality, level of finish and proximity to amenities and public transit ("FMV"). Tenant may, no more than eighteen (18) months prior to the date the Term is then scheduled to expire, request Landlord's estimate of the FMV for the Option term. Landlord shall, within thirty (30) days after receipt of such request, give Tenant a written proposal of such FMV. If Tenant gives written notice to exercise the Option, such notice shall specify whether Tenant accepts Landlord's proposed estimate of FMV. If Tenant does not accept the FMV, then the parties shall endeavor to agree upon the FMV, taking into account all relevant factors, including (v) the size of the Premises, (w) the length of the Option term, (x) rent in comparable buildings in the relevant submarket, including concessions offered to new tenants, such as free rent, tenant improvement allowances and moving allowances, (y) Tenant's creditworthiness and (z) the quality and location of the Building and the Project. In the event that the parties are unable to agree upon the FMV within thirty (30) days after Tenant notifies Landlord that Tenant is exercising the Option, then either party may request that the same be determined as follows: a senior officer of a nationally recognized leasing brokerage firm with local knowledge of the Burlington/128 laboratory/research and development leasing submarket (the "Baseball Arbitrator") shall be selected and paid for jointly by Landlord and Tenant. If Landlord and Tenant are unable to agree upon the Baseball Arbitrator, then the same shall be designated by the local chapter of the Judicial Arbitration and Mediation Services or any successor organization thereto (the "JAMS"). The Baseball Arbitrator selected by the parties or designated by JAMS shall (y) have at least ten (10) years' experience in the leasing of laboratory/research and development space in the Burlington/128 submarket and (z) not have been employed or retained by either Landlord or Tenant or any affiliate of either for a period of at least ten (10) years prior to appointment pursuant hereto. Each of Landlord and Tenant shall submit to the Baseball Arbitrator and to the other party its determination of the FMV. The Baseball Arbitrator shall grant to Landlord and Tenant a hearing and the right to submit evidence. The Baseball Arbitrator shall determine which of the two (2) FMV determinations more closely represents the actual FMV. The arbitrator may not select any other FMV for the Premises other than one submitted by Landlord or Tenant. The FMV selected by the Baseball Arbitrator shall be binding upon Landlord and Tenant and shall serve as the basis for determination of Base Rent payable for the Option term. If, as of the commencement date of the Option term, the amount of Base Rent payable during the Option term shall not have been determined, then, pending such determination, Tenant shall pay Base Rent equal to the Base Rent payable with respect to the last year of the then-current Term. After the final determination of Base Rent payable for the Option term, the parties shall promptly execute a written amendment to this Lease specifying the amount of Base Rent to be paid during the Option term. Any failure of the parties to execute such amendment shall not affect the validity of the FMV determined pursuant to this Section.

42.2. The Option is not assignable separate and apart from this Lease.

42.3. The Option is conditional upon Tenant giving Landlord written notice of its election to exercise the Option at least twelve (12) months, but not more than eighteen (18) months, prior to the end of the expiration of the then-current Term. Time shall be of the essence as to Tenant's exercise of the Option. Tenant assumes full responsibility for maintaining a record of the deadlines to exercise the Option. Tenant acknowledges that it would be inequitable to require Landlord to accept any exercise of the Option after the date provided for in this Section.

42.4. Notwithstanding anything contained in this Article to the contrary, Tenant shall not have the right to exercise the Option:

(a) During the time commencing from the date Landlord delivers to Tenant a written notice that Tenant is in default under any provisions of this Lease and continuing until Tenant has cured the specified default;

(b) At any time after any Event of Default as described in Article 31 of the Lease (provided, however, that, for purposes of this Section 42.4(b), Landlord shall not be required to provide Tenant with notice of such Event of Default other than any notice from Landlord that may be required under Article 31 of this Lease) and continuing until Tenant cures any such Event of Default, if such Event of Default is susceptible to being cured;

(c) At the time Tenant exercises its Option and as of the last day of the initial Term, Tenant has not subleased more than fifty percent (50%) of the Rentable Area of the Premises or Tenant has not assigned this Lease, except in connection with an Exempt Transfer;

(d) In the event that Tenant has defaulted in the performance of its obligation to pay Base Rent, Operating Expenses or the Property Management Fee two (2) or more times during the twelve (12)-month period immediately prior to the date that Tenant intends to exercise the Option, whether or not Tenant has cured such defaults; or

(e) In the event that there has been an Event of Default of any material non-monetary obligations under this Lease or its obligation to pay Additional Rent (excluding Operating Expenses and the Property Management Fee) two (2) or more times during the twelve (12)-month period immediately prior to the date that Tenant intends to exercise the Option, whether or not Tenant has cured such defaults.

42.5. The period of time within which Tenant may exercise the Option shall not be extended or enlarged by reason of Tenant's inability to exercise such Option because of the provisions of Section 42.4.

All of Tenant's rights under the provisions of the Option shall terminate and be of no further force or effect even after Tenant's due and timely exercise of the Option if, after such exercise, but prior to the commencement date of the new term, there occurs an Event of Default under this Lease two (2) or more times and a service or late charge under Section 31.1 has become payable for any such Default, whether or not Tenant has cured such Defaults.

43. Tenant Generator. Subject to Legal Requirements and Landlord's prior written approval of plans and specifications therefor, Tenant may install, operate and maintain, in a location mutually agreed to by the parties (the "Tenant Generator Location"), an emergency generator and equipment

related thereto (collectively, the "Emergency Back-up Equipment") at Tenant's sole cost and expense. Landlord shall have no obligation to provide any services including, without limitation, electric current or gas service, to the Emergency Back-up Equipment, provided, however, subject to Legal Requirements and Landlord's prior written approval of plans and specifications therefor, which approval shall not be unreasonably withheld, delayed or conditioned, Tenant may also install, maintain and operate necessary utility connections between the Emergency Back-up Equipment and the Premises (which utility connections shall be deemed part of the Emergency Back-up Equipment). Landlord may, in its sole and absolute discretion, require Tenant, at Landlord's cost, to relocate any or all of the Emergency Back-up Equipment to a location with comparable functionality, which relocation shall be performed by Tenant within a reasonable period following such request (taking into account any reasonable time necessary to obtain permits and approvals for such work, Tenant hereby agreeing to use diligent good faith efforts to obtain the same and to promptly commence and prosecute to completion such relocation thereafter). Landlord agrees to require such relocation no more than once during the Term (provided that such limitation shall not apply to temporary relocations required in connection with any required maintenance, repair or replacement by Landlord). Landlord's approval of the Emergency Back-up Equipment shall not be unreasonably withheld, conditioned or delayed. Tenant shall be responsible for the cost of repairing and maintaining the Emergency Back-up Equipment in good order, condition and repair and in compliance with Applicable Laws and for the cost of repairing any damage to the Property, or the cost of any necessary improvements to the Property, caused by or as a result of the installation, replacement and/or removal of the Emergency Back-up Equipment. Landlord makes no warranties or representations to Tenant as to the suitability of the Tenant Generator Location for the installation and operation of the Emergency Back-up Equipment. Tenant shall not install or operate the Emergency Back-up Equipment until Tenant has obtained and submitted to Landlord copies of all required governmental permits, licenses, and authorizations necessary for the installation and operation thereof. In addition, Tenant shall comply with all reasonable Rules and Regulations in connection with the installation, maintenance and operation of the Emergency Back-up Equipment.

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IN WITNESS WHEREOF, the parties hereto have executed this Lease as a sealed Massachusetts instrument as of the date first above written.

LANDLORD:

3 VDG OWNER LLC,
a Delaware limited liability company

By: /s/ Jay O Hirsh
Name: Jay O Hirsh
Title: Duly Authorized

TENANT:

FRACTYL HEALTH, INC.,
a Delaware corporation

By: /s/ Lisa Davidson
Name: Lisa Davidson
Title: Chief Financial Officer

EXHIBIT A
PREMISES

A-1

EXHIBIT B
WORK LETTER

EXHIBIT B-1
SCOPE OF WORK

EXHIBIT B-2
FIT PLAN

EXHIBIT C
ACKNOWLEDGEMENT OF TERM COMMENCEMENT DATE
AND TERM EXPIRATION DATE

EXHIBIT D
FORM OF LETTER OF CREDIT

ATTACHMENT 1 TO EXHIBIT D

FORM OF SIGHT DRAFT

ATTACHMENT 2 TO EXHIBIT D

FORM OF TRANSFER NOTICE

[BENEFICIARY LETTERHEAD]

TO:

[Name and Address of Issuer] (the "Issuer")

TRANSFER NOTICE

By signing below, the undersigned, Beneficiary (the "Beneficiary") under Issuer's Letter of Credit No. _____ dated _____ (the "L/C"), transfers the L/C to the following transferee (the "Transferee"):

[Transferee Name and Address]

The original L/C is enclosed. Beneficiary directs Issuer to reissue or amend the L/C in favor of Transferee as Beneficiary. Beneficiary represents and warrants that Beneficiary has not transferred, assigned, or encumbered the L/C or any interest in the L/C, which transfer, assignment, or encumbrance remains in effect.

[Name and signature block, with signature or purported signature of Beneficiary]

Date: _____]

EXHIBIT E
RULES AND REGULATIONS

EXHIBIT F
TENANT'S PERSONAL PROPERTY

EXHIBIT G
FORM OF ESTOPPEL CERTIFICATE

EXHIBIT H
TENANT WORK INSURANCE SCHEDULE

EXHIBIT I
FITNESS CENTER RELEASE

EXHIBIT J
EXTERIOR SIGNAGE LOCATION

EXHIBIT K
CC&R's

Exhibit 10.15

FRACTYL HEALTH, INC.

INDEMNIFICATION AGREEMENT

THIS INDEMNIFICATION AGREEMENT (the "***Agreement***") is made and entered into as of , 2023 between Fractyl Health, Inc., a Delaware corporation (the "***Company***"), and [Name] ("***Indemnitee***").

WITNESSETH THAT:

WHEREAS, highly competent persons have become more reluctant to serve corporations as directors, officers or in other capacities unless they are provided with adequate protection through insurance or adequate indemnification against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board of Directors of the Company (the "***Board***") has determined that, in order to attract and retain qualified individuals, the Company will attempt to maintain on an ongoing basis, at its sole expense, liability insurance to protect persons serving the Company and its subsidiaries from certain liabilities. Although the furnishing of such insurance has been a customary and widespread practice among United States-based corporations and other business enterprises, the Company believes that, given current market conditions and trends, such insurance may be available to it in the future only at higher premiums and with more exclusions. At the same time, directors, officers, and other persons in service to corporations or business enterprises are being increasingly subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Company or business enterprise itself. The Bylaws of the Company require indemnification of the officers and directors of the Company. Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware ("***DGCL***"). The Bylaws and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive, and thereby contemplate that contracts may be entered into between the Company and members of the Board, officers and other persons with respect to indemnification;

WHEREAS, the uncertainties relating to such insurance and to indemnification have increased the difficulty of attracting and retaining such persons;

WHEREAS, the Board has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Company's stockholders and that the Company should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified;

WHEREAS, this Agreement is a supplement to and in furtherance of the Bylaws of the Company and any resolutions adopted pursuant thereto, and shall not be deemed a substitute therefor, nor to diminish or abrogate any rights of Indemnitee thereunder; and

WHEREAS, Indemnitee does not regard the protection available under the Company's Bylaws and insurance as adequate in the present circumstances, and may not be willing to serve as an officer or director without adequate protection, and the Company desires Indemnitee to serve in such capacity. Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Company on the condition that he be so indemnified.

NOW, THEREFORE, in consideration of Indemnitee's agreement to serve as [an officer] [a director] [an officer and director] from and after the date hereof, the parties hereto agree as follows:

1. Indemnity of Indemnitee. The Company hereby agrees to hold harmless and indemnify Indemnitee to the fullest extent permitted by law, as such may be amended from time to time. In furtherance of the foregoing indemnification, and without limiting the generality thereof:

(a) Proceedings Other Than Proceedings by or in the Right of the Company. Indemnitee shall be entitled to the rights of indemnification provided in this Section l(a) if, by reason of his Corporate Status (as hereinafter defined), the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding (as hereinafter defined) other than a Proceeding by or in the right of the Company. Pursuant to this Section 1(a), Indemnitee shall be indemnified against all Expenses (as hereinafter defined), judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by him, or on his behalf, in connection with such Proceeding or any claim, issue or matter therein, if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and with respect to any criminal Proceeding, had no reasonable cause to believe the Indemnitee's conduct was unlawful.

(b) Proceedings by or in the Right of the Company. Indemnitee shall be entitled to the rights of indemnification provided in this Section 1(b) if, by reason of his Corporate Status, the Indemnitee is, or is threatened to be made, a party to or participant in any Proceeding brought by or in the right of the Company. Pursuant to this Section 1(b), Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by the Indemnitee, or on the Indemnitee's behalf, in connection with such Proceeding if the Indemnitee acted in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company; provided, however, if applicable law so provides, no indemnification against such Expenses shall be made in respect of any claim, issue or matter in such Proceeding as to which Indemnitee shall have been adjudged to be liable to the Company unless and to the extent that the Court of Chancery of the State of Delaware shall determine that such indemnification may be made.

(c) Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of his Corporate Status, a party to and is successful, on the merits or otherwise, in any Proceeding, he shall be indemnified to the maximum extent permitted by law, as such may be amended from time to time, against all Expenses actually and reasonably incurred by him or on his behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by him or on his behalf in connection with each successfully resolved claim,

issue or matter. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

(d) Indemnification of Appointing Stockholder. If (i) Indemnitee is or was affiliated with one or more venture capital funds that has invested in the Company (an "***Appointing Stockholder***"), and (ii) the Appointing Stockholder is, or is threatened to be made, a party to or a participant in any Proceeding relating to or arising by reason of Appointing Stockholder's position as a stockholder of, or lender to, the Company, or Appointing Stockholder's appointment of or affiliation with Indemnitee or any other director, including without limitation any alleged misappropriation of a Company asset or corporate opportunity, any claim of misappropriation or infringement of intellectual property relating to the Company, any alleged false or misleading statement or omission made by the Company (or on its behalf) or its employees or agents, or any allegation of inappropriate control or influence over the Company or its Board members, officers, equity holders or debt holders, then the Appointing Stockholder will be entitled to indemnification hereunder for Expenses to the same extent as Indemnitee, and the terms of this Agreement as they relate to procedures for indemnification of Indemnitee and advancement of Expenses shall apply to any such indemnification of Appointing Stockholder.

(e) The rights provided to the Appointing Stockholder under this Section 1(d) shall (i) be suspended during any period during which the Appointing Stockholder does not have a representative on the Company's Board and (ii) terminate on an initial public offering of the Company's Common Stock; provided, however, that in the event of any such suspension or termination, the Appointing Stockholder's rights to indemnification will not be suspended or terminated with respect to any Proceeding based in whole or in part on facts and circumstances occurring at any time prior to such suspension or termination regardless of whether the Proceeding arises before or after such suspension or termination. The Company and Indemnitee agree that the Appointing Stockholder is an express third party beneficiary of the terms of this Section 1(d).

2. Additional Indemnity. In addition to, and without regard to any limitations on, the indemnification provided for in Section 1 of this Agreement, the Company shall and hereby does indemnify and hold harmless Indemnitee against all Expenses, judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred by him or on his behalf if, by reason of his Corporate Status, he is, or is threatened to be made, a party to or participant in any Proceeding (including a Proceeding by or in the right of the Company), including, without limitation, all liability arising out of the negligence or active or passive wrongdoing of Indemnitee. The only limitation that shall exist upon the Company's obligations pursuant to this Agreement shall be that the Company shall not be obligated to make any payment to Indemnitee that is finally determined (under the procedures, and subject to the presumptions, set forth in Sections 6 and 7 hereof) to be unlawful.

3. Contribution.

(a) Whether or not the indemnification provided in Sections 1 and 2 hereof is available, in respect of any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall pay, in the first instance, the entire amount of any judgment or settlement of such action, suit or proceeding without requiring Indemnitee to contribute to such

payment and the Company hereby waives and relinquishes any right of contribution it may have against Indemnitee. The Company shall not enter into any settlement of any action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding) unless such settlement provides for a full and final release of all claims asserted against Indemnitee.

(b) Without diminishing or impairing the obligations of the Company set forth in the preceding subparagraph, if, for any reason, Indemnitee shall elect or be required to pay all or any portion of any judgment or settlement in any threatened, pending or completed action, suit or proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), the Company shall contribute to the amount of Expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by Indemnitee in proportion to the relative benefits received by the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, from the transaction or events from which such action, suit or proceeding arose; provided, however, that the proportion determined on the basis of relative benefit may, to the extent necessary to conform to law, be further adjusted by reference to the relative fault of the Company and all officers, directors or employees of the Company other than Indemnitee who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, in connection with the transaction or events that resulted in such expenses, judgments, fines or settlement amounts, as well as any other equitable considerations which applicable law may require to be considered. The relative fault of the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such action, suit or proceeding), on the one hand, and Indemnitee, on the other hand, shall be determined by reference to, among other things, the degree to which their actions were motivated by intent to gain personal profit or advantage, the degree to which their liability is primary or secondary and the degree to which their conduct is active or passive.

(c) The Company hereby agrees to fully indemnify and hold Indemnitee harmless from any claims of contribution which may be brought by officers, directors or employees of the Company, other than Indemnitee, who may be jointly liable with Indemnitee.

(d) To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company and Indemnitee as a result of the event(s) and/or transaction(s) giving cause to such Proceeding and/or (ii) the relative fault of the Company (and its directors, officers, employees and agents) and Indemnitee in connection with such event(s) and/or transaction(s).

4. Indemnification for Expenses of a Witness. Notwithstanding any other provision of this Agreement, to the extent that Indemnitee is, by reason of his Corporate Status, a witness, or is made (or asked) to respond to discovery requests, in any Proceeding to which Indemnitee is not a party, he shall be indemnified against all Expenses actually and reasonably incurred by him or on his behalf in connection therewith.

5. Advancement of Expenses. Notwithstanding any other provision of this Agreement, the Company shall advance all Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding by reason of Indemnitee's Corporate Status within thirty (30) days after the receipt by the Company of a statement or statements from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by Indemnitee. The Indemnitee shall qualify for advances upon the execution and delivery to the Company of this Agreement, which shall constitute an undertaking by Indemnitee to repay any Expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such Expenses. Any advances and undertakings to repay pursuant to this Section 5 shall be unsecured and interest free.

6. Procedures and Presumptions for Determination of Entitlement to Indemnification. It is the intent of this Agreement to secure for Indemnitee rights of indemnity that are as favorable as may be permitted under the DGCL and public policy of the State of Delaware. Accordingly, the parties agree that the following procedures and presumptions shall apply in the event of any question as to whether Indemnitee is entitled to indemnification under this Agreement:

(a) To obtain indemnification under this Agreement, Indemnitee shall submit to the Company a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, advise the Board in writing that Indemnitee has requested indemnification. Notwithstanding the foregoing, any failure of Indemnitee to provide such a request to the Company, or to provide such a request in a timely fashion, shall not relieve the Company of any liability that it may have to Indemnitee unless, and to the extent that, such failure actually and materially prejudices the interests of the Company.

(b) Upon written request by Indemnitee for indemnification pursuant to the first sentence of Section 6(a) hereof, a determination with respect to Indemnitee's entitlement thereto shall be made in the specific case by one of the following four methods, which shall be at the election of the Board: (1) by a majority vote of the disinterested directors, even though less than a quorum, (2) by a committee of disinterested directors designated by a majority vote of the disinterested directors, even though less than a quorum, (3) if there are no disinterested directors or if the disinterested directors so direct, by independent legal counsel in a written opinion to the Board, a copy of which shall be delivered to the Indemnitee, or (4) if so directed by the Board, by the stockholders of the Company. For purposes hereof, disinterested directors are those members of the Board who are not parties to the action, suit or proceeding in respect of which indemnification is sought by Indemnitee.

(c) If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 6(b) hereof, the Independent Counsel shall be selected as provided in this Section 6(c). The Independent Counsel shall be selected by the Board. Indemnitee may, within ten (10) days after such written notice of selection shall have been given, deliver to the Company a written objection to such selection; provided, however, that such

objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 13 of this Agreement, and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If a written objection is made and substantiated, the Independent Counsel selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court has determined that such objection is without merit. If, within twenty (20) days after the conclusion of the Proceeding giving rise to the request for indemnification, no Independent Counsel shall have been selected and not objected to, either the Company or Indemnitee may petition the Court of Chancery of the State of Delaware for resolution of any objection which shall have been made by the Indemnitee to the Company's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the court or by such other person as the court shall designate, and the person with respect to whom all objections are so resolved or the person so appointed shall act as Independent Counsel under Section 6(b) hereof. The Company shall pay any and all reasonable fees and expenses of Independent Counsel incurred by such Independent Counsel in connection with acting pursuant to Section 6(b) hereof, and the Company shall pay all reasonable fees and expenses incident to the procedures of this Section 6(c), regardless of the manner in which such Independent Counsel was selected or appointed.

(d) In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Agreement. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence. Neither the failure of the Company (including by its directors or independent legal counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper in the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Company (including by its directors or independent legal counsel) that Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(e) Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise (as hereinafter defined), including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by the Enterprise. In addition, the knowledge and/or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Agreement. Whether or not the foregoing provisions of this Section 6(e) are satisfied, it shall in any event be presumed that Indemnitee has at all times acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Company. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(f) If the person, persons or entity empowered or selected under Section 6 to determine whether Indemnitee is entitled to indemnification shall not have made a determination within sixty (60) days after the conclusion of the Proceeding giving rise to the request for indemnification, the requisite determination of entitlement to indemnification shall be

deemed to have been made and Indemnitee shall be entitled to such indemnification absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law; provided, however, that such sixty (60)-day period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person, persons or entity making such determination with respect to entitlement to indemnification in good faith requires such additional time to obtain or evaluate documentation and/or information relating thereto; and provided, further, that the foregoing provisions of this Section 6(f) shall not apply if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 6(b) of this Agreement and if (A) within fifteen (15) days after the conclusion of the Proceeding giving rise to the request for indemnification, the Board or the Disinterested Directors, if appropriate, resolve to submit such determination to the stockholders for their consideration at an annual meeting thereof to be held within seventy-five (75) days after such resolution and such determination is made thereat, or (B) a special meeting of stockholders is called within fifteen (15) days after such resolution and such meeting is held for such purpose within sixty (60) days after having been so called and such determination is made thereat.

(g) Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any Independent Counsel, member of the Board or stockholder of the Company shall act reasonably and in good faith in making a determination regarding the Indemnitee's entitlement to indemnification under this Agreement. Any costs or expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the Company (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(h) The Company acknowledges that a settlement or other disposition short of final judgment may be successful if it permits a party to avoid expense, delay, distraction, disruption and uncertainty. In the event that any action, claim or proceeding to which Indemnitee is a party is resolved in any manner other than by adverse judgment against Indemnitee (including, without limitation, settlement of such action, claim or proceeding with or without payment of money or other consideration) it shall be presumed that Indemnitee has been successful on the merits or otherwise in such action, suit or proceeding. Anyone seeking to overcome this presumption shall have the burden of proof and the burden of persuasion by clear and convincing evidence.

(i) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which he reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that his conduct was unlawful.

7. Remedies of Indemnitee.

(a) In the event that (i) a determination is made pursuant to Section 6 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 5 of this Agreement, (iii) no determination of entitlement to indemnification is made pursuant to Section 6(b) of this Agreement within ninety (90) days after the conclusion of the Proceeding giving rise to the request for indemnification, (iv) payment of indemnification required by Section 4 is not made pursuant to this Agreement within thirty (30) days after receipt by the Company of a written request therefor or (v) payment of indemnification is not made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification or such determination is deemed to have been made pursuant to Section 6 of this Agreement, Indemnitee shall be entitled to an adjudication in Court of Chancery of the State of Delaware of Indemnitee's entitlement to such indemnification. Indemnitee shall commence such proceeding seeking an adjudication within one hundred eighty (180) days following the date on which Indemnitee first has the right to commence such proceeding pursuant to this Section 7(a). The Company shall not oppose Indemnitee's right to seek any such adjudication.

(b) In the event that a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding commenced pursuant to this Section 7 shall be conducted in all respects as a de novo trial on the merits, and Indemnitee shall not be prejudiced by reason of the adverse determination under Section 6(b).

(c) If a determination shall have been made pursuant to Section 6(b) of this Agreement that Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding commenced pursuant to this Section 7, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's misstatement not materially misleading in connection with the application for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) In the event that Indemnitee, pursuant to this Section 7, seeks a judicial adjudication of his rights under, or to recover damages for breach of, this Agreement, or to recover under any directors' and officers' liability insurance policies maintained by the Company, the Company shall pay on his behalf, in advance, any and all expenses (of the types described in the definition of Expenses in Section 13 of this Agreement) actually and reasonably incurred by him in such judicial adjudication, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of expenses or insurance recovery.

(e) The Company shall be precluded from asserting in any judicial proceeding commenced pursuant to this Section 7 that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court that the Company is bound by all the provisions of this Agreement. The Company shall indemnify Indemnitee against any and all Expenses and, if requested by Indemnitee, shall (within ten (10) days after receipt by the Company of a written request therefore) advance, to the extent not prohibited by law, such expenses to Indemnitee, which are incurred by Indemnitee in connection with any action brought by Indemnitee for indemnification or advance of Expenses from the Company under this Agreement or under any directors' and officers' liability insurance policies maintained by the Company, regardless of whether Indemnitee ultimately is determined to be entitled to such indemnification, advancement of Expenses or insurance recovery, as the case may be.

(f) Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding.

8. Non-Exclusivity; Survival of Rights; Insurance; Primacy of Indemnification; Subrogation.

(a) The rights of indemnification as provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the Bylaws, any agreement, a vote of stockholders, a resolution of directors of the Company, or otherwise. No amendment, alteration or repeal of this Agreement or of any provision hereof shall limit or restrict any right of Indemnitee under this Agreement in respect of any action taken or omitted by such Indemnitee in his Corporate Status prior to such amendment, alteration or repeal. To the extent that a change in the DGCL, whether by statute or judicial decision, permits greater indemnification than would be afforded currently under the Certificate of Incorporation, Bylaws and this Agreement, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

(b) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents or fiduciaries of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that such person serves at the request of the Company, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any director, officer, employee, agent or fiduciary under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has directors' and officers' liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies.

(c) In the event of any payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(d) The Company shall not be liable under this Agreement to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

(e) The Company's obligation to indemnify or advance Expenses hereunder to Indemnitee who is or was serving at the request of the Company as a director, officer, employee or agent of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise shall be reduced by any amount Indemnitee has actually received as indemnification or advancement of expenses from such other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise.

9. Exception to Right of Indemnification. Notwithstanding any provision in this Agreement, the Company shall not be obligated under this Agreement to make any indemnity in connection with any claim made against Indemnitee:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy or other indemnity provision, except with respect to any excess beyond the amount paid under any insurance policy or other indemnity provision; or

(b) for an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Securities Exchange Act of 1934, as amended, or similar provisions of state statutory law or common law; or

(c) in connection with any Proceeding (or any part of any Proceeding) initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company or its directors, officers, employees or other indemnitees, unless (i) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation or (ii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law.

10. Duration of Agreement. All agreements and obligations of the Company contained herein shall continue during the period Indemnitee is an officer or director of the Company (or is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise) and shall continue thereafter so long as Indemnitee shall be subject to any Proceeding (or any proceeding commenced under Section 7 hereof) by reason of his Corporate Status, whether or not he is acting or serving in any such capacity at the time any liability or expense is incurred for which indemnification can be provided under this Agreement. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business or assets of the Company), assigns, spouses, heirs, executors and personal and legal representatives.

11. Security. To the extent requested by Indemnitee and approved by the Board, the Company may at any time and from time to time provide security to Indemnitee for the Company's obligations hereunder through an irrevocable bank line of credit, funded trust or other collateral. Any such security, once provided to Indemnitee, may not be revoked or released without the prior written consent of the Indemnitee.

12. Enforcement.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumes the obligations imposed on it hereby in order to induce Indemnitee to serve as an officer or director of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving as an officer or director of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof.

(c) The Company shall not seek from a court, or agree to, a "bar order" which would have the effect of prohibiting or limiting the Indemnitee's rights to receive advancement of expenses under this Agreement.

13. Definitions. For purposes of this Agreement:

(a) "***Corporate Status***" describes the status of a person who is or was a director, officer, employee, agent or fiduciary of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that such person is or was serving at the express written request of the Company.

(b) "***Disinterested Director***" means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(c) "***Enterprise***" shall mean the Company and any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise that Indemnitee is or was serving at the express written request of the Company as a director, officer, employee, agent or fiduciary.

(d) "***Expenses***" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, participating, or being or preparing to be a witness in a Proceeding, or responding to, or objecting to, a request to provide discovery in any Proceeding. Expenses also shall include Expenses incurred in connection with any appeal resulting from any Proceeding and any federal, state, local or foreign taxes imposed on the Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, including without limitation the premium, security for, and other costs relating to any cost bond, supersede as bond, or other appeal bond or its equivalent. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(e) "***Independent Counsel***" means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Company or Indemnitee in any matter material to either such party (other than with respect to matters concerning Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing,

the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee's rights under this Agreement. The Company agrees to pay the reasonable fees of the Independent Counsel referred to above and to fully indemnify such counsel against any and all Expenses, claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

(f) "***Proceeding***" includes any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing or any other actual, threatened or completed proceeding, whether brought by or in the right of the Company or otherwise and whether civil, criminal, administrative or investigative, in which Indemnitee was, is or will be involved as a party or otherwise, by reason of his or her Corporate Status, by reason of any action taken by him or of any inaction on his part while acting in his or her Corporate Status; in each case whether or not he is acting or serving in any such capacity at the time any liability or expense is incurred for which indemnification can be provided under this Agreement; including one pending on or before the date of this Agreement, but excluding one initiated by an Indemnitee pursuant to Section 7 of this Agreement to enforce his rights under this Agreement.

14. Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision. Further, the invalidity or unenforceability of any provision hereof as to either Indemnitee or Appointing Stockholder shall in no way affect the validity or enforceability of any provision hereof as to the other. Without limiting the generality of the foregoing, this Agreement is intended to confer upon Indemnitee and Appointing Stockholder indemnification rights to the fullest extent permitted by applicable laws. In the event any provision hereof conflicts with any applicable law, such provision shall be deemed modified, consistent with the aforementioned intent, to the extent necessary to resolve such conflict.

15. Modification and Waiver. No supplement, modification, termination or amendment of this Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

16. Notice By Indemnitee. Indemnitee agrees promptly to notify the Company in writing upon being served with or otherwise receiving any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification covered hereunder. The failure to so notify the Company shall not relieve the Company of any obligation which it may have to Indemnitee under this Agreement or otherwise unless and only to the extent that such failure or delay materially prejudices the Company.

17. Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient, and if not so confirmed, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent:

(a) To Indemnitee at the address set forth below Indemnitee signature hereto.

(b) To the Company at:

Fractyl Health, Inc.
17 Hartwell Avenue
Lexington, MA 02421
Attention: Chief Executive Officer

or to such other address as may have been furnished to Indemnitee by the Company or to the Company by Indemnitee, as the case may be.

18. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, *e.g.*, www.docusign.com) or any other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

19. Headings. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

20. Governing Law and Consent to Jurisdiction. This Agreement and the legal relations among the parties shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. The Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Chancery Court of the State of Delaware (the "***Delaware Court***"), and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, (iii) appoint, to the extent such party is not otherwise subject to service of process in the State of Delaware, irrevocably The Corporation Trust Center, 1209 Orange Street, Wilmington, DE 19801 as its agent in the State of Delaware as such party's agent for acceptance of legal process in connection with any such action or proceeding against such party with the same legal force and validity as if served upon such party personally within the State of Delaware, (iv) waive any objection to the laying of venue of any such action or proceeding in the Delaware Court, and (v) waive, and agree not to plead or to make, any claim that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

SIGNATURE PAGE TO FOLLOW

IN WITNESS WHEREOF, the parties hereto have executed this Indemnification Agreement on and as of the day and year first above written.

FRACTYL HEALTH, INC.

By: _____
Name: Harith Rajagopalan, M.D., Ph.D.
Title: Chief Executive Officer

INDEMNITEE

_____
Name: _____

Address:

_____
_____
_____
_____

Exhibit 21.1

Subsidiaries of Fractyl Health, Inc.

Subsidiary	Jurisdiction
Fractyl Laboratories Ltd.	United Kingdom
Fractyl Securities Corporation	Massachusetts

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" and to the use of our report dated August 22, 2023, in the Registration Statement (Form S-1) and related Prospectus of Fractyl Health, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

Boston, Massachusetts
December 14, 2023

Exhibit 107

Calculation of Filing Fee Tables

Form S-1
(Form Type)

FRACTYL HEALTH, INC.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount Registered	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price[1]	Fee Rate	Amount of Registration Fee[2]
Fees to be Paid	Equity	Common Stock, par value $0.00001 per share[3][4]	457(o)	—	—	$100,000,000	0.00014760	$14,760.15
				Total Offering Amount	—	$100,000,000	—	$14,760.15
				Total Fees Previously Paid	—	—	—	—
				Total Fee Offsets	—	—	—	—
				Net Fee Due	—	—	—	$14,760.15

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended (the "Securities Act").
(2) Calculated pursuant to Rule 457(o) under the Securities Act based on an estimate of the proposed maximum aggregate offering price.
(3) Includes up to an additional 15% of the aggregate offering price to cover a 30-day option granted to the underwriters to purchase additional shares of our common stock to cover over-allotments, if any.
(4) Pursuant to Rule 416(a) of the Securities Act, the shares of common stock registered hereby also includes an indeterminable number of additional securities that may be issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.