As confidentially submitted to the Securities and Exchange Commission on August 2, 2024.
This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains confidential.
Registration No. 333–

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

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

Septerna, Inc.
(Exact name of registrant as specified in its charter)

Delaware	2834	84-3891440
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

Septerna, Inc.
250 East Grand Avenue
South San Francisco, California 94080
(650) 338-3533
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Jeffrey Finer, M.D., Ph.D.
President and Chief Executive Officer
Septerna, Inc.
250 East Grand Avenue
South San Francisco, California 94080
(650) 338-3533
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Mitchell S. Bloom Deepa M. Rich Adam V. Johnson Goodwin Procter LLP 601 Marshall Street Redwood City, California 94063 (650) 752-3100	Jeffrey Finer, M.D., Ph.D. President and Chief Executive Officer Septerna, Inc. 250 East Grand Avenue South San Francisco, California 94080 (650) 338-3533	Denny Won Charles S. Kim Kristin VanderPas Dave Peinsipp Cooley LLP 3 Embarcadero Center, 20th Floor San Francisco, California 94111 (415) 693-2000

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

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, as amended, 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, please 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 Securities Exchange Act of 1934.

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange 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 files 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, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

Pursuant to the applicable provisions of the Fixing America's Surface Transportation Act, we are omitting our unaudited financial statements as of and for the three months ended March 31, 2022 and 2023 because they relate to historical periods that we believe will not be required to be included in the registration statement at the time of the first public filing of the registration statement. We intend to amend this registration statement to include all financial information required by Regulation S-X under the Securities Act of 1933, as amended (Securities Act), at the date of such amendment before distributing a preliminary prospectus to investors.

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

SUBJECT TO COMPLETION, DATED , 2024

Shares

Common Stock

This is an initial public offering of shares of common stock of Septerna, Inc.

We are offering shares of our common stock. Prior to this offering, there has been no public market for our common stock. It is currently estimated that the initial public offering price per share will be between $ and $. We intend to apply to list our common stock on the Nasdaq Global Market under the symbol "SEPN," and this offering is contingent upon obtaining approval of such listing.

We are an "emerging growth company" and a "smaller reporting company" as defined under U.S. federal securities laws and, as such, we have elected to comply with certain reduced public company reporting requirements.

Investing in our common stock involves a high degree of risk. See the section titled "Risk Factors" beginning on page 17.

	Per Share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds, before expenses, to us	$	$

(1) See the section titled "Underwriting" for additional disclosure regarding the underwriting discounts and commissions and estimated offering expenses.

We have granted the underwriters an option for a period of 30 days to purchase up to an additional shares of our common stock.

The underwriters expect to deliver the shares of common stock to purchasers on , 2024.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

J.P. Morgan **TD Cowen** **Cantor** **Wells Fargo Securities**

The date of this prospectus is , 2024.

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We have not, and the underwriters have not, authorized anyone to provide any information or to make any representation other than those contained in this prospectus, any amendment or supplement to this prospectus or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the underwriters 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 our common stock offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus, any amendment or supplement to this prospectus or 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: We have not, and the underwriters have not, 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 our common stock and the distribution of this prospectus outside the United States.

MARKET AND INDUSTRY DATA

Market data and certain other statistical information used throughout this prospectus are based on independent industry publications, governmental publications, reports by market research firms, including, but not limited to, Clarivate™, or other independent sources that we believe to be reliable sources. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. In some cases, we do not expressly refer to the sources from which this data is derived. We are responsible for all of the disclosure contained in this prospectus, and we believe that these sources are reliable. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section titled "Risk Factors" and elsewhere in this prospectus. Some data are also based on our good faith estimates. The content of, or accessibility through, the below sources, except to the extent specifically set forth in this prospectus, does not constitute a portion of this prospectus and is not incorporated herein and any websites are an inactive textual reference only.

The source of certain statistical data, estimates, and forecasts contained in this prospectus are the following independent industry publications or reports:

- Pokhrel B, Bhusal K. Graves Disease. Treasure Island (FL): StatPearls Publishing; January 2024. Creative Commons Attribution-Non Commercial-No Derivatives 4.0 International License (CC BY-NC-ND 4.0)]; and
- Guillen-Aguinaga, S., et al. Updosing nonsedating antihistamines in patients with chronic spontaneous urticaria: a systematic review and meta-analysis. British Journal of Dermatology 175.6 (2016).

PROSPECTUS SUMMARY

This summary highlights information contained in greater detail elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including the sections titled "Risk Factors," "Special Note Regarding Forward-Looking Statements," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our financial statements and the related notes thereto included elsewhere in this prospectus. Except where the context otherwise requires or where otherwise indicated, the terms "Septerna," "we," "us," "our," "our company," "the company," and "our business" refer to Septerna, Inc.

Overview

We are a clinical-stage biotechnology company pioneering a new era of G protein-coupled receptor (GPCR) oral small molecule drug discovery powered by our proprietary Native Complex Platform™. Our industrial-scale platform aims to unlock the full potential of GPCR therapies and has led to the discovery and development of our deep pipeline of product candidates focused initially on treating patients in three therapeutic areas: endocrinology, immunology and inflammation, and metabolic diseases.

GPCRs are the largest and most diverse family of cell membrane receptors and regulate physiological processes in nearly every organ system of the human body. Due to their significant role in human diseases, GPCRs have been the most productive target class in drug discovery history, accounting for approximately one-third of all U.S. Food and Drug Administration (FDA) approved drugs, representing approximately 500 products with combined global revenue of approximately $125 billion in 2023. Despite the pharmacological and commercial success of GPCR-targeted agents, about 75% of potential GPCR therapeutic targets remain undrugged and, for certain validated GPCRs, novel binding pockets may exist that could offer enhanced therapeutic benefits. Each step in GPCR activation involves subtle conformational changes that have been historically challenging to reproduce outside of a cell. The inability to isolate GPCR proteins in their native functional form outside of a cellular context has prevented scientists from leveraging some of the state-of-the-art technologies that have revolutionized drug discovery in other major target classes over the past decade. This complex challenge has limited GPCR drug discovery, particularly the development of novel oral small molecules, such as agonists for peptide GPCRs and allosteric modulators.

Our proprietary Native Complex Platform™ replicates the natural structure, function, and dynamics of GPCRs outside of cells at an industrial scale for, as we believe it, the first time. Our foundational technologies enable us to isolate, purify, and reconstitute full-length, properly folded GPCR proteins within ternary complexes with ligands and transducer proteins in a lipid bilayer that mimics the cell membrane. We then apply state-of-the-art discovery tools and technologies to these defined and tunable protein complexes to structurally design, screen for, and optimize potential product candidates. Leveraging our platform, we have transformed GPCR oral small molecule drug discovery to an industrialized and iterative structure-based drug design approach to expand the landscape of druggable GPCR targets with novel oral small molecule medicines for patients. Our Native Complex Platform™ is designed to enable us to target certain GPCRs for the first time, uncover novel binding pockets for validated receptors, and pursue a wide spectrum of pharmacologies, including agonists, antagonists, and allosteric modulators, to affect GPCR signaling in different ways to achieve desired therapeutic effects.

We are advancing a deep portfolio of oral small molecule GPCR-targeted programs with novel mechanistic approaches to treat diseases across multiple therapeutic areas for patients with significant unmet needs. Our wholly-owned pipeline is summarized in the figure below.

Program / Target *Mode of Action*	Therapeutic Area *Indications / U.S. Patient Population*	Development Stage	Key Program Attributes
SEP-786 (PTH1R) *Agonist*	**Endocrinology** *Hypoparathyroidism: ~70k*	Phase 1	• No approved or clinical-stage oral small molecules targeting PTH1R • Convenient oral dosing targets all hypoparathyroidism patients • Maintained serum calcium control over 28-day dosing in preclinical hypoparathyroidism model
SEP-631 (MRGPRX2) *Negative Allosteric Modulator*	**Immunology and Inflammation** *CSU: ~1.5mm* *Other Mast Cell Diseases*	IND-enabling	• Lead oral small molecule candidate targets novel binding site to selectively inhibit mast cells • Blocked mediator-induced angioedema in preclinical MRGPRX2 model • Pipeline-in-a-product potential treating mast cell driven diseases
TSHR *Negative Allosteric Modulator*	**Endocrinology** *Graves' Disease: ~2mm* *Thyroid Eye Disease: ~1mm*	Discovery	• Opportunity for novel oral small molecule disease-modifying agent • Reversed hyperthyroidism and eye proptosis in preclinical Graves' disease model
GLP-1R, GIPR, GCGR *Single- and Multi-Agonists*	**Metabolic Diseases** *Obesity and T2D: ~800mm[1]*	Discovery	• Potential to develop novel oral small molecule mono-, dual- and triple-receptor agonists • Demonstrated significant glucose reduction in preclinical oral-glucose tolerance test • Small molecule approach enables scalable manufacturing

Note: [1] Global population for obesity and T2D PTH1R = Parathyroid Hormone 1 Receptor MRGPRX2 = MAS-Related G Protein-Coupled Receptor X2
TSHR = Thyroid-Stimulating Hormone Receptor GLP-1R = Glucagon-Like Peptide 1 Receptor GIPR = Gastric Inhibitory Polypeptide Receptor GCGR = Glucagon Receptor

Our lead product candidate, SEP-786, is, to our knowledge, the only clinical-stage, oral small molecule agonist targeting the Parathyroid Hormone 1 Receptor (PTH1R) for the treatment of hypoparathyroidism. We are initiating a Phase 1 clinical trial to assess preliminary safety, tolerability, pharmacokinetics (PK) and pharmacodynamics (PD) of SEP-786, and expect to report initial data from this trial in .

We believe our team, scientific and technical advisors, and our proprietary Native Complex Platform™ uniquely positions us to become the leading GPCR-focused biotechnology company.

GPCRs as Therapeutic Targets

GPCRs are the most targeted drug class due to their significant role in human diseases and their pharmacological tractability. GPCRs are characterized by their seven transmembrane domains, and function in ternary complexes that form with extracellular ligands and intracellular transducer proteins which modulate cellular signaling pathways in response to ligand binding. Different GPCRs play vital roles in a variety of physiologic processes of every major organ system, including the central nervous system (CNS), cardiovascular, respiratory, metabolic and urogenital systems, making them key therapeutic targets. Today, many GPCR-targeted drugs have established market-leading positions across a variety of therapeutic areas, including Ozempic and Wegovy (each marketed by Novo Nordisk) for the treatment of type 2 diabetes (T2D) and obesity, respectively, and Nurtec ODT (marketed by Pfizer) for the acute treatment of migraine.

Historically, GPCR oral small molecule drug discovery has been highly concentrated on a small number of targets – despite GPCRs constituting the largest human membrane protein family – as GPCRs are difficult to isolate in their native functional form outside of a cellular context, which has limited the utilization of modern drug discovery tools and technologies. As a result, about 75% of GPCR therapeutic targets remain undrugged and, for certain validated GPCRs, novel binding pockets may exist that could offer enhanced therapeutic benefits.

Our Native Complex Platform™ Aims to Unlock the Full Therapeutic Potential of GPCRs

In the past decade, drug discovery across various target classes has been revolutionized by a variety of state-of-the-art tools and technologies. These innovations include structure-based drug design, computational docking, and DNA-encoded libraries (DELs). However, the utilization of these technologies has been limited for discovering oral small molecules targeting GPCRs due to the inability to isolate functional native GPCR proteins outside of a cellular context.

With our proprietary Native Complex Platform™, we can purify GPCRs outside of cells and reconstitute them into fully functional ternary complexes with transducer proteins (e.g., G proteins, beta-arrestins) and ligands (endogenous or synthetic), all housed within a well-defined lipid bilayer environment (Figure 1). These Native Complexes are full-length, properly folded GPCRs that retain their natural structure, function, and dynamics. We then apply state-of-the-art discovery tools and technologies to these defined and tunable protein complexes to structurally design, screen for, and optimize potential product candidates. Leveraging our platform, we have transformed GPCR drug discovery, potentially expanding the landscape of druggable GPCR targets with novel oral small molecule medicines for patients.

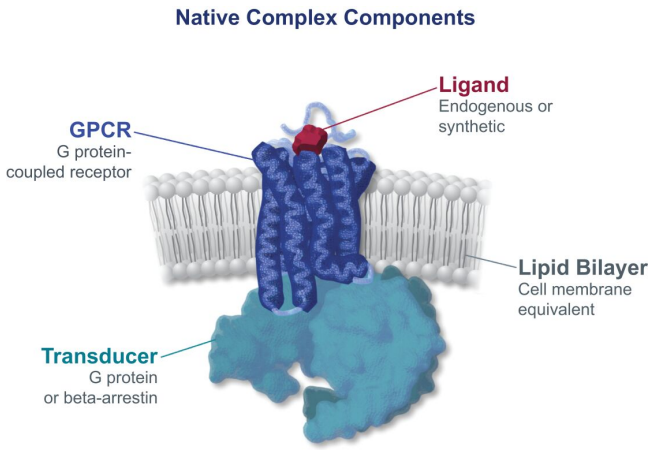


Figure 1. Native Complexes consist of full-length, properly folded GPCR proteins reconstituted with a ligand and/or a transducer protein such as a G protein in a lipid bilayer that mimics the cell membrane.

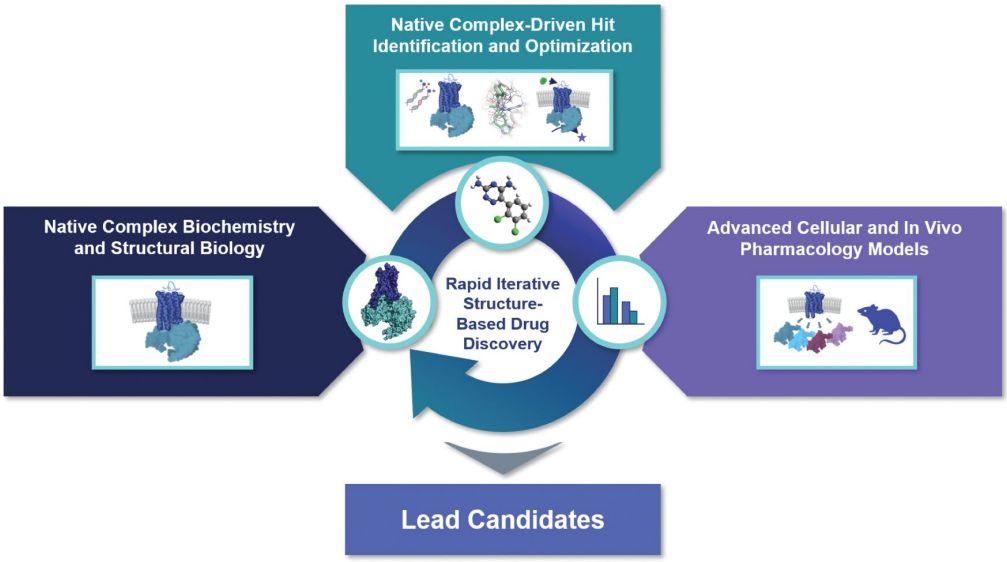
Our Native Complex Platform™ is powered by a suite of tools and technologies that we have optimized and integrated into a proprietary and industrialized workflow, and together form an efficient and iterative discovery process for identification and optimization of novel small molecule product candidates targeting high-value GPCRs, including:

- ***Native Complex biochemistry and structural biology:*** Our Native Complexes reconstitute native GPCR function in a purified biochemical format, which enables efficient high-resolution, three-dimensional

structure determination using cryogenic electron microscopy (cryo-EM). This can reveal receptor binding pockets that we can target with a range of pharmacologies (agonists, antagonists, and allosteric modulators) as well as novel insights into mechanisms for GPCR modulation.

- ***Native Complex-driven hit identification and optimization:*** We virtually screen our GPCR structures against ultra-large-scale computational databases containing billions of candidate molecules to identify the most promising small molecule compounds that bind in pockets on the GPCR structure. We use technologies, including DELs, to screen billions of candidate molecules simultaneously, and we have developed proprietary technologies to discover and optimize compounds with a variety of modes of action. In addition, we use our proprietary Native Complex biochemical screens in our hit identification and optimization processes.
- ***Advanced cellular and in vivo pharmacology models:*** We efficiently evaluate hits and lead compounds through the integration of advanced cellular and *in vivo* pharmacology models. Prioritized compounds with desired pharmacologies are then either advanced as potential drug candidates or fed back into the process for additional Native Complex-driven compound optimization.

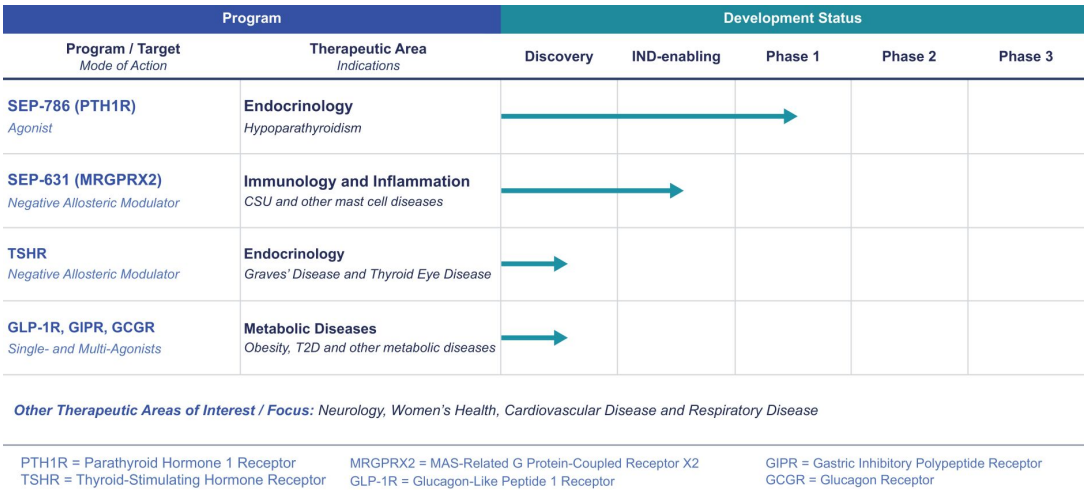
Our oral small molecule drug discovery process, powered by our proprietary Native Complex Platform™, is depicted in the figure below.



We believe we are at the forefront of industrial-scale GPCR drug discovery and development. Our Native Complex Platform™ is designed to target certain GPCRs for the first time, uncover novel binding pockets for validated receptors, and pursue a wide spectrum of pharmacologies to achieve desired therapeutic effects. Our platform has led to the discovery and development of a pipeline of novel, highly potent and selective oral small molecules, and for our most advanced programs, optimized them into clinical development candidates.

Our Pipeline and Programs

Our wholly-owned pipeline, summarized in the figure below, is focused initially on three therapeutic areas: endocrinology, immunology and inflammation, and metabolic diseases. We intend to evaluate opportunities in other major therapeutic areas, such as neurology, women's health, cardiovascular, and respiratory disease.



SEP-786 – Oral Small Molecule PTH1R Agonist for Hypoparathyroidism

Hypoparathyroidism is a rare endocrine disease characterized by insufficient levels of parathyroid hormone (PTH) that affects approximately 70,000 patients in the United States and approximately 140,000 patients in Europe. Patients with hypoparathyroidism are at risk of both short-term and long-term complications, including muscle cramps, fatigue, cognitive dysfunction, and life-threatening complications, such as cardiac arrhythmias, seizures, and renal failure. The goal of treatment is to relieve symptoms and restore calcium and phosphate levels to normal. Current standard of care consists of high-dose calcium supplements and activated vitamin D (calcitriol); however, these therapies do not replace other functions of PTH to restore physiological mineral homeostasis or address all of the symptoms experienced by patients. Hormone replacement with injectable PTH peptides, either marketed or in clinical development, may improve blood chemistry profiles of patients via PTH1R activation but will require life-long daily injections. We believe there is a substantial opportunity for an oral small molecule therapy that offers convenience, improved compliance, and potentially superior efficacy.

Our lead product candidate, SEP-786, is, to our knowledge, the only clinical-stage, oral small molecule agonist targeting PTH1R for the treatment of hypoparathyroidism. PTH1R is a historically difficult-to-drug small molecule target, yet we effectively leveraged our Native Complex Platform™ to discover and optimize SEP-786 with desired drug-like properties. In preclinical studies, SEP-786 has been observed to be generally well-tolerated and has demonstrated potent and selective activation of PTH1R in human, dog, and rat receptor *in vitro* models. In a preclinical animal model of hypoparathyroidism, SEP-786 controlled serum calcium levels within the normal range over a 28-day dosing period. We have successfully completed Investigational New Drug (IND)-enabling studies and are initiating a Phase 1 clinical trial to assess preliminary safety, tolerability, PK, and PD of SEP-786. We expect to report initial data from this trial in .

SEP-631 – Oral Small Molecule MRGPRX2 NAM for CSU and Other Mast Cell Diseases

Chronic spontaneous urticaria (CSU) is a systemic inflammatory skin disease characterized by the spontaneous and persistent recurrence of itchy, painful hives, known as wheals, on the skin and angioedema, or

swelling, that affects approximately 1.5 million patients in the United States. While there is no known trigger, the degranulation of mast cells and release of histamine and other inflammatory mediators lead to these debilitating symptoms. Patients are treated initially with antihistamines and non-responders may be treated with Xolair (omalizumab), an injectable anti-IgE monoclonal antibody. The targeting and blocking of IgE-mediated inflammation can effectively address symptoms; however, only an estimated 36% of these antihistamine-refractory patients respond to anti-IgE therapy. Mas-related G-protein coupled receptor member X2 (MRGPRX2) plays an important role in mast cell activation and degranulation. We believe an oral therapy that inhibits MRGPRX2 could provide a differentiated treatment option for patients with CSU given the selective inhibition of mast cells and potential for combination therapy.

SEP-631 is a selective, oral small molecule MRGPRX2 negative allosteric modulator (NAM) that we are developing initially for the treatment of CSU. In preclinical studies, SEP-631 demonstrated potent and long-lasting inhibition of MRGPRX2 and blocked mediator-induced angioedema in mice engineered to express the human MRGPRX2 receptor. We have initiated IND-enabling studies of SEP-631 and upon completion, we anticipate submitting for regulatory clearance to initiate a clinical trial.

In addition to CSU, we believe there is a significant opportunity to develop SEP-631 for the treatment of other mast cell diseases. MRGPRX2 is highly and uniquely expressed on mast cells that drive multiple prevalent diseases, including allergic asthma, atopic dermatitis, interstitial cystitis, migraine, and prurigo nodularis. We believe SEP-631 could offer a novel oral treatment option for these patient populations.

TSHR Program – Oral Small Molecule TSHR NAM for Graves' Disease and TED

Graves' disease is one of the most prevalent autoimmune conditions affecting over 2 million patients in the United States and is the leading cause of hyperthyroidism, resulting in symptoms including anxiety, irritability, tremor, and fatigue. Treatments have remained largely unchanged over the past 70 years, and include anti-thyroid medications, radioactive iodine therapy to ablate thyroid gland function, and thyroidectomy surgery. These treatment options may initially address the underlying symptoms, but they are not disease-modifying and do not stop disease progression to thyroid eye disease (TED) for approximately 50% of Graves' disease patients. TED is a serious, progressive and vision-threatening autoimmune condition that can lead to eye bulging, swelling, pain and blurred or double vision. Current treatments for TED, such as TEPEZZA (teprotumumab-trbw), an anti-IGF-1R human monoclonal antibody, are designed to help manage symptoms. Despite reaching global sales of $2.0 billion in 2022, TEPEZZA requires several intravenous (IV) infusions over several months and has risks of serious side effects, including hearing loss and metabolic issues, such as increased blood glucose or hyperglycemia.

These autoimmune conditions are caused by autoantibodies that bind to and activate the thyroid stimulating hormone receptor (TSHR) on thyroid cells in the thyroid gland (leading to Graves' disease) and other cells including fibroblasts located behind the eyes (leading to TED). We believe an oral small molecule TSHR NAM could offer a novel disease-modifying treatment approach that directly addresses the pathobiology of both diseases by blocking TSHR overactivation caused by patients' autoantibodies.

In our preclinical studies, we have demonstrated that a TSHR NAM can reverse hyperthyroidism and proptosis in a novel mouse model of Graves' disease and inhibits multiple Graves' disease patient TSHR activating autoantibodies in cell-based assays using primary human cells. We are advancing several lead compounds towards selection of a development candidate for IND-enabling studies.

Incretin Programs : Oral Small Molecule Single- and Multi-Incretin Receptor Agonists for Metabolic Disorders Including Obesity and T2D

Obesity and diabetes are two of the most prevalent diseases in the world, affecting a combined total of more than 800 million people, and are associated with severe health complications, including cardiovascular disease

and kidney failure, as well as an increased risk of death. Weight reduction is seen as an important treatment goal for patients with either condition. In recent years, several injectable peptide agonists targeting select metabolic hormone receptors, or incretin receptors, have been approved for the treatment of T2D and obesity.

Three incretins play significant roles in glucose metabolism and homeostasis: glucagon-like peptide-1 (GLP-1), gastric inhibitory polypeptide (GIP), and glucagon. Third-party clinical data with incretin-targeted therapeutics have demonstrated substantial and sustained reductions in body weight, as well as the ability to lower blood glucose and improve glycated hemoglobin (HbA1c). Global sales in 2023 for Ozempic and Wegovy (semaglutide), and Mounjaro and Zepbound (tirzepatide) were $18.4 billion and $5.3 billion, respectively. Despite these advancements in the treatment of obesity and T2D, a number of key limitations remain for the incretin therapeutic class, including tolerability, prolonged titration schemes, injection administration, and supply challenges.

Based on unique chemical and structural insights obtained with our Native Complex Platform™, we believe we have an opportunity to discover and develop novel, next-generation, oral small molecules as selective single- or multi-acting GLP-1, GIP, glucagon receptor agonists. We are advancing several lead compounds towards selection of one or more development candidates for IND-enabling studies.

Our Team and Investors

We have built a strong values-driven organization, and we are advancing cutting-edge science and rigorously developing a broad and deep portfolio of GPCR-targeted programs for patients. We were founded by preeminent drug discovery company builders and scientific leaders in the biochemistry, structural biology, and pharmacology of GPCRs:

- **Robert Lefkowitz, M.D.,** James B. Duke Professor of Medicine and Professor of Biochemistry and Chemistry at Duke University and an Investigator of the Howard Hughes Medical Institute. Dr. Lefkowitz is globally recognized for his groundbreaking discoveries that reveal the inner workings of GPCRs, for which he was awarded the 2012 Nobel Prize in Chemistry and elections to both the National Academy of Sciences and the National Academy of Medicine.
- **Arthur Christopoulos, Ph.D.,** Professor of Analytical Pharmacology, Dean of the Faculty of Pharmacy & Pharmaceutical Sciences, and Director of the Neuromedicines Discovery Centre at Monash University in Australia. Dr. Christopoulos is a world-leading expert in GPCR molecular pharmacology and responsible for several seminal discoveries of allosteric modulation of GPCRs, for which he has been elected to both the Australian Academy of Science and the Australian Academy of Health and Medical Sciences.
- **Patrick Sexton, Ph.D., D.Sc.,** Professor, Drug Discovery Biology at Monash University and Director of the ARC Centre for Cryo-electron Microscopy of Membrane Proteins. Dr. Sexton is an international leader in GPCR biochemistry, pharmacology, and structural biology and his team is at the forefront of using cryo-EM to elucidate the structure and dynamics of GPCRs.
- **Jeffrey Finer, M.D., Ph.D.**, our President and Chief Executive Officer. Dr. Finer has more than 35 years of research, clinical and business experience. He has focused his career on breakthrough innovations that have included moving several first-in-class drugs into clinical trials, developing novel technology platforms that integrate science and engineering, and new company creation. As a Venture Partner at Third Rock Ventures, LLC (Third Rock Ventures), Dr. Finer was involved in the founding and launching of multiple biotech companies, including Maze Therapeutics, Inc. and Ambys Medicines, Inc., and served as interim Chief Technology Officer at both. Previously, Dr. Finer spent several years in research and development leadership positions, including Vice President, Research Technology at Theravance Biopharma, Inc. (Theravance Biopharma), Vice President, Discovery at Five Prime Therapeutics, Inc., and Director, Drug Discovery at Cytokinetics, Incorporated.

In addition, we have established a team of experienced biotechnology leaders with deep expertise in company building, drug discovery and clinical advancement of novel medicines. Our senior leadership team includes:

- **Elizabeth (Liz) Bhatt, M.S., M.B.A.**, our Chief Operating Officer, who has more than 30 years of strategy, deal-making and company-building experience across a range of biotech and pharmaceutical companies, including Applied Molecular Transport Inc., Achaogen, Inc., Gilead Sciences, Inc., Eli Lilly and Company, and Maxygen, Inc.
- **Alan Ezekowitz, M.D., D.Phil.**, our interim Chief Medical Officer, is an Advisory Partner at Third Rock Ventures and a leader in the field of developmental immunology with more than 150 publications. Dr. Ezekowitz served at the Harvard Medical School as the Charles Wilder Professor of Pediatrics, as the Head of Laboratory for Development Immunology and Principal of the Cancer Center and later as Chief of Pediatric Services at the Massachusetts General Hospital for Children, and as a director on the Partners Healthcare System board. Previously, Dr. Ezekowitz was the co-founder, President and Chief Executive Officer of Abide Therapeutics, Inc., which he oversaw through its acquisition by H. Lundbeck A/S, and during his tenure at Merck Research Laboratories, he was responsible for the bone, respiratory, immunology, inflammation, dermatology, and endocrine franchises.
- **Samira Shaikhly**, our Chief People Officer, is a human resources leader with more than 25 years of experience enabling organizational effectiveness in high-growth companies across multiple human resource disciplines including a 15-year tenure at Gilead Sciences, Inc.
- **Uwe Klein, Ph.D.**, our Senior Vice President, Biological Sciences, has deep expertise in GPCR biology and over 20 years of experience in small molecule drug discovery across a range of biotech and pharmaceutical companies, including MyoKardia, Inc. (acquired by Bristol-Myers Squibb (BMS)). Earlier in his career, Dr. Klein held positions as Vice President, Biology at Numerate, Inc. (acquired by Valo Health, Inc.) and as Senior Director, Molecular & Cellular Biology at Theravance Biopharma, where he led a team of biologists and two cross-functional project teams in the discovery of numerous development candidates and several clinical compounds across different therapeutic areas and target classes.
- **Daniel Long, D.Phil.**, our Senior Vice President, Drug Discovery, is a highly experienced drug hunter with a track record of leading high-performing teams that discover drug candidates and advance them through preclinical development to IND and into clinical trials. Dr. Long spent more 20 years at Theravance Biopharma, where he held numerous scientist positions, including as Vice President, Head of Medical Chemistry, Biology and Pharmacology.

Our board of directors is composed of accomplished leaders in the life sciences industry, including our board chairman, Jeffrey Tong, Ph.D., a Partner at Third Rock Ventures; Abraham Bassan, M.S., a Principal at Samsara BioCapital L.P. (Samsara); Bernard Coulie, M.D., Ph.D., M.B.A., President and Chief Executive Officer of Pliant Therapeutics, Inc.; Dr. Ezekowitz, an Advisory Partner at Third Rock Ventures; Shalini Sharp, M.B.A., a member of the boards of directors of Neurocrine Biosciences, Inc. and Organon & Co. and former Chief Financial Officer and Executive Vice President at Ultragenyx Pharmaceuticals Inc.; Jake Simson, Ph.D., a Partner at RA Capital Management, L.P. (RA Capital), and Dr. Finer, our Chief Executive Officer. Further, we have assembled a cross-functional scientific and drug discovery advisory board, comprised of seasoned drug hunters and leading academic scientists at the forefront of GPCR biology and pharmacology.

Since our inception, we have raised net proceeds of approximately $224.2 million in equity capital from a syndicate of premier life sciences investors. Potential investors should not consider investments made by our existing investors as a factor when making a decision to purchase shares in this offering since our existing

investors likely have different risk tolerances and paid significantly less per share than the price at which the shares are being offered in this offering.

Our Strategy

Our goal is to develop life-changing GPCR-targeted medicines for patients with significant unmet medical needs. We plan to achieve this goal by pursuing the following strategies:

- Efficiently advance our portfolio of GPCR-targeted programs, led by SEP-786;
- Continue to expand our differentiated GPCR-targeted pipeline focused on indications with significant unmet needs;
- Maximize the potential of our Native Complex Platform™ through continued innovation and investment; and
- Evaluate and selectively execute value-creating strategic partnerships.

Summary of Risks Associated with Our Business

Investment in our common stock involves substantial risks and uncertainties, and our ability to execute on our business strategy is subject to a number of risks, which are discussed more fully in the section titled "Risk Factors." You should carefully consider these risks before making an investment in our common stock. If any of these risks or uncertainties actually occur, our business, financial condition, or results of operations could be materially and adversely affected. In such case, the trading price of our common stock would likely decline, and you could lose all or part of your investment. These risks include, among others, the following:

- We have a limited operating history and have incurred significant operating losses since our inception and expect to incur significant losses for the foreseeable future.
- Even if this offering is successful, we will require substantial additional funding in order to finance our operations. If we are unable to raise additional capital when needed on acceptable terms, or at all, we may be forced to delay, reduce, or terminate certain of our research and product development programs, future commercialization efforts or other operations.
- We are early in our development efforts. We have only recently initiated early clinical studies, and as a result it will be years before we commercialize a product candidate, if ever. If we are unable to identify and advance product candidates through preclinical studies and clinical trials, obtain marketing approval and ultimately commercialize them, or experience significant delays in doing so, our business will be materially harmed.
- Preclinical and clinical drug development is a lengthy and expensive process, with uncertain timelines and outcomes. If preclinical studies or clinical trials of our product candidates are prolonged or delayed, we may be unable to obtain required regulatory approvals, and therefore be unable to commercialize our therapeutic candidates or any of our future therapeutic candidates on a timely basis or at all.
- We may encounter substantial delays in the commencement, enrollment or completion of our planned clinical trials or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities, which could prevent us from commercializing any product candidates we determine to develop on a timely basis, if at all.
- Serious adverse events, undesirable side effects or other unexpected properties of our product candidates may be identified during development or after approval, which could lead to the discontinuation of our clinical development programs, refusal by regulatory authorities to approve our product candidates or, if discovered following marketing approval, revocation of marketing

authorizations or limitations on the use of our product candidates, any of which would limit the commercial potential of such product candidate.

- Our product candidates are subject to extensive regulation and compliance obligations, which is costly and time-consuming and which may cause unanticipated delays or prevent the receipt of the required approvals to commercialize our product candidates.
- Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control, which could adversely affect our business, operating results and prospects.
- Our proprietary Native Complex Platform™ is based on novel technologies that are unproven and may not result in approvable or marketable products, which exposes us to unforeseen risks and makes it difficult for us to predict the time and cost of product development and potential for regulatory approval, and we may not be successful in our efforts to expand our development portfolio of product candidates.
- We currently have no marketing and sales organization and have no experience as a company in commercializing products, and we may invest significant resources to develop these capabilities. If we are unable to establish marketing, sales or distribution capabilities or enter into agreements with third parties to market and sell our products, we may not be able to generate product revenue.
- Even if any of our current or future product candidates receive marketing approval, such product candidate may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success, in which case we may not generate significant revenues or become profitable.
- We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than us.
- We rely on third-party manufacturers, clinical research organizations (CROs), contract manufacturing organizations (CMOs), and suppliers to supply, develop and test components of our product candidates. The loss of our third-party manufacturers, CROs, CMOs, or suppliers, their failure to comply with applicable regulatory requirements or to supply sufficient quantities at acceptable quality levels or prices, or at all, or changes in methods of product candidate manufacturing, development or formulation would materially and adversely affect our business.

The risks summarized above or described in full elsewhere in this prospectus are not the only risks that we face. Additional risks and uncertainties not presently known to us, or that we currently deem to be immaterial may also materially adversely affect our business, financial condition, results of operations, and future, growth prospects.

Corporate and Other Information

We were incorporated under the laws of the State of Delaware in December 2019 under the name GPCR NewCo, Inc. and changed our name to Septerna, Inc. in June 2021. Our principal executive offices are located at 250 East Grand Avenue, South San Francisco, California 94080, and our telephone number is (650) 338-3533. Our website address is *www.septerna.com*. The information contained in or accessible from our website is not incorporated into this prospectus, and you should not consider it part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

This prospectus includes our trademarks and trade names which are protected under applicable intellectual property laws and are our property. 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 will not assert, to the fullest extent permitted under applicable law, our rights or the right of the 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.

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 (JOBS Act). As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- being permitted to present 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;
- reduced disclosure obligations about our executive compensation arrangements;
- not being required to hold nonbinding advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 (Sarbanes-Oxley Act); and
- an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor's report on the financial statements.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission (SEC). We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. Additionally, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of this exemption and, therefore, while we are an emerging growth company we will not be subject to new or revised accounting standards at the same time that they become applicable to other public companies that are not emerging growth companies. As a result of this election, our financial statements may not be comparable to those of other public companies that comply with new or revised accounting pronouncements as of public company effective dates. We may choose to early adopt any new or revised accounting standards whenever such early adoption is permitted for private companies.

We are also a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended (Exchange Act), 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 $700.0 million and our annual revenue was

less than $100.0 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 $250.0 million or (ii) our annual revenue was less than $100.0 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than $700.0 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 to purchase up to additional shares of our common stock from us at the public offering price, less underwriting discounts and commissions on the same terms as set forth in this prospectus.
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 to us from this offering will be approximately $ million (or approximately $ million if the underwriters exercise their option to purchase additional shares in full), assuming an initial public offering price of $ per share, which is the midpoint of the estimated 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. We currently intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, as follows: approximately $ million to advance the continued development of SEP-786, our lead product candidate from our PTH1R program, and additional molecules targeting PTH1R; approximately $ million to advance the development of SEP-631, and additional small molecules within our MRGPRX2 program; approximately $ million for other research and development activities, including our TSHR and incretin receptor programs, other new GPCR programs, and continued innovation of our Native Complex Platform™; and the remainder to fund working capital and general corporate purposes. See the section titled "Use of Proceeds."
Risk factors	Investing in our common stock involves a high degree of risk. You should read the section titled "Risk Factors" and other information included in this prospectus before investing in our common stock.
Proposed Nasdaq trading symbol	"SEPN"

The number of shares of our common stock to be outstanding after this offering is based on shares of our common stock (which includes shares of unvested restricted common stock subject to repurchase or forfeiture) outstanding as of June 30, 2024, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock immediately prior to the completion of this offering, and excludes:

- shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2024 under our 2021 Stock Option and Grant Plan, as amended from time to time (2021 Plan), with a weighted-average exercise price of $ per share;

- shares of our common stock issuable upon the exercise of stock options granted after June 30, 2024 pursuant to the 2021 Plan, with a weighted-average exercise price of $ per share;
- shares of our common stock reserved for issuance under the 2021 Plan as of June 30, 2024, which shares will cease to be available for issuance at the time that our 2024 Stock Option and Grant Plan (2024 Plan) becomes effective;
- shares of our common stock that will become available for future issuance under the 2024 Plan, which will become effective on the date immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan and any shares underlying outstanding stock awards granted under the 2021 Plan that expire or are repurchased, forfeited, cancelled, or withheld; and
- shares of our common stock reserved for future issuance under our 2024 Employee Stock Purchase Plan (ESPP), which will become effective on the date immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the ESPP.

Unless otherwise indicated, all information in this prospectus reflects or assumes the following:

- a one-for- reverse stock split of our capital stock, which we effected on , 2024;
- the automatic conversion of all outstanding shares of our convertible preferred stock as of June 30, 2024 into an aggregate of shares of our common stock immediately prior to the completion of this offering;
- shares of unvested restricted common stock subject to repurchase or forfeiture as of , 2024;
- no exercise of the outstanding stock options and restricted common stock described above;
- no exercise by the underwriters of their option to purchase up to an additional shares of our common stock in this offering; and
- 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 completion of this offering.

Summary Financial Data

The following tables summarize our financial data for Septerna, Inc. You should read the following summary financial data together with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes thereto included elsewhere in this prospectus. We have derived the summary statements of operations and comprehensive (loss) income data for the years ended December 31, 2022 and 2023 from our audited financial statements included elsewhere in this prospectus. We have derived the summary statements of operations and comprehensive (loss) income data for the six months ended June 30, 2023 and 2024, and the summary balance sheet data as of June 30, 2024, from our unaudited interim condensed financial statements included elsewhere in this prospectus. Our unaudited interim condensed financial statements were prepared on a basis consistent with our audited financial statements and include, in our opinion, all adjustments of a normal and recurring nature that are necessary for the fair statement of the financial information set forth in those statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in any future period and our interim results are not necessarily indicative of results that may be expected for the full year. The summary financial data included in this section are not intended to replace the audited financial statements and the related notes thereto included elsewhere in this prospectus and are qualified in their entirety by our financial statements and the related notes included elsewhere in this prospectus.

	Years Ended December 31,		Six Months Ended June 30,	
	2022	2023	2023	2024
	(in thousands, except for share and per share data)		(unaudited)	
Statement of Operations and Comprehensive (Loss) Income Data:				
Revenue	$ —	$ 151	$	$
Operating expenses (income):				
Research and development	22,044	35,979		
General and administrative	5,923	9,722		
Gain on sale of non-financial asset	—	(47,625)		
Total operating expenses (income)	27,967	(1,924)		
(Loss) income from operations	(27,967)	2,075		
Other income, net:				
Interest income	291	2,786		
Other income, net	—	10		
Total other income, net	291	2,796		
(Loss) income before provision for income taxes	(27,676)	4,871		
Provision for income taxes	—	691		
Net (loss) income and comprehensive (loss) income	$ (27,676)	$ 4,180	$	$
Net (loss) income attributable to common stockholders	$ (27,676)	$ 567	$	$
Net (loss) income per share attributable to common stockholders[1]:				
Basic	$ (2.24)	$ 0.03	$	$
Diluted	$ (2.24)	$ 0.03	$	$
Weighted-average shares outstanding used in computing net (loss) income per share attributable to common stockholders[1]:				
Basic	12,372,127	16,606,017		
Diluted	12,372,127	18,746,058		

	Years Ended December 31,		Six Months Ended June 30,	
	2022	2023	2023	2024
	(in thousands, except for share and per share data)		(unaudited)	
Pro forma net (loss) income per share attributable to common stockholders (unaudited)(2):				
Basic		$		$
Diluted		$		$
Pro forma weighted-average shares outstanding used in computing net (loss) income per share attributable to common stockholders (unaudited)(2):				
Basic				
Diluted				

(1) See Note 13 to our audited financial statements and Note to our unaudited interim condensed financial statements included elsewhere in this prospectus for details on the calculation of basic and diluted net (loss) income per share attributable to common stockholders.

(2) The unaudited pro forma basic and diluted net (loss) income per share were computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the automatic conversion of all outstanding shares of convertible preferred stock into shares of common stock as of the beginning of the period.

	As of June 30, 2024		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)
	(in thousands, except for share data) (unaudited)		
Balance Sheet Data:			
Cash and cash equivalents	$	$	$
Working capital(3)			
Total assets			
Total liabilities			
Total convertible preferred stock			
Accumulated deficit			
Total stockholders' (deficit) equity			

(1) The pro forma balance sheet data gives effect to the automatic conversion of all outstanding shares of our outstanding convertible preferred stock as of June 30, 2024 into an aggregate of shares of our common stock and the related reclassification of the carrying value of the convertible preferred stock to permanent equity, each of which will occur immediately prior to the completion of this offering.

(2) The pro forma as adjusted balance sheet data gives effect to (i) the pro forma adjustments set forth in footnote (1) above and (ii) the 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 estimated 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. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of our cash and cash equivalents, working capital, total assets and total stockholders' (deficit) equity 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. Each increase or decrease of 1.0 million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of our cash and cash equivalents, working capital, total assets and total stockholders' (deficit) equity 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.

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

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information contained in this prospectus, including our consolidated financial statements and related notes appearing at the end of this prospectus, before deciding to invest in our common stock. If any of the events or developments described below were to occur, our business, prospects, operating results and financial condition could suffer materially, the trading price of our common stock could decline and you could lose all or part of your investment. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

Risks Related to Limited Operating History, Financial Position and Capital Requirements

We have a limited operating history and have incurred significant operating losses since our inception and expect to incur significant losses for the foreseeable future.

Pharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We are a clinical-stage biotechnology company with a limited operating history, which may make it difficult to evaluate the success of our business to date and assess our future viability. Since our inception in December 2019, we have focused primarily on organizing and staffing our company, business planning, establishing our intellectual property portfolio, raising capital, developing our proprietary and structure-based drug discovery platform, identifying and developing our product candidates, conducting research and preclinical studies, including IND-enabling studies, initiating and conducting clinical trials, and providing general and administrative support for these operations. Our approach to the discovery and development of product candidates based on our Native Complex Platform™ is unproven, and we do not know whether we will be able to develop any product candidates that succeed in clinical development or commercially. Further, our lead product candidate, SEP-786, is in early clinical development and our other product candidates and development programs are in preclinical development or in the drug discovery stages. Accordingly, we have not yet completed any clinical trials, demonstrated an ability to successfully obtain regulatory approvals, manufactured a clinical- or commercial-scale product, or arranged for a third party to do so on our behalf, or conducted sales and marketing activities necessary for successful product commercialization. Consequently, any predictions made about our future success or viability may not be as accurate as they could be if we had a history of successfully developing and commercializing pharmaceutical products.

We have no products approved for commercial sale and have not generated any revenue from product sales to date, and we continue to incur significant research and development and other expenses related to our preclinical and clinical development and ongoing operations. As a result, we are not profitable and have incurred significant losses since our inception, with the exception of the year ended December 31, 2023, and negative cash flows from operating activities and capital expenditures and expect to continue to incur significant and increasing operating losses for at least the next several years. If our product candidates are not successfully developed and approved, we may never generate any significant revenue. Our net loss was $27.7 million for the year ended December 31, 2022 and net income was $4.2 million for the year ended December 31, 2023, respectively. As of June 30, 2024, we had an accumulated deficit of $ million. Substantially all of our losses have resulted from expenses incurred in connection with our research and development programs and from general and administrative costs associated with our operations. All of our product candidates will require substantial additional development time and resources before we would be able to apply for or receive marketing approvals and begin generating revenue from product sales. We expect to continue to incur significant losses for the foreseeable future, and we expect that our expenses will increase substantially as we continue our development of, seek marketing approval for and potentially commercialize any of our product candidates, recruit and maintain key personnel and seek to identify, assess, acquire, in-license or develop additional product candidates.

Even if we succeed in developing and obtaining marketing approval for one or more of our current or future product candidates, we may never generate revenue that is significant enough to achieve profitability. If we do

achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis and we will continue to incur substantial research and development and other expenditures to develop and market additional product candidates. Our failure to become and remain profitable could decrease the value of our common stock and impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations.

Even if this offering is successful, we will require substantial additional funding in order to finance our operations. If we are unable to raise additional capital when needed on acceptable terms, or at all, we may be forced to delay, reduce, or terminate certain of our research and product development programs, future commercialization efforts or other operations.

The development of pharmaceutical product candidates, including conducting preclinical studies and clinical trials, is a very time-consuming, capital-intensive 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 identify, continue the research and development of, initiate and conduct clinical trials of, and seek regulatory approval for, SEP-786 and any additional product candidates we may identify. In addition, if we obtain regulatory approval for any product candidates we may identify, we expect to incur significant commercialization expenses related to product sales, marketing, manufacturing, and distribution to the extent that such sales, marketing, manufacturing, and distribution are not the responsibility of a collaborator. Because the outcome of any clinical trial or preclinical study is highly uncertain, we cannot reasonably estimate the actual amount of capital necessary to successfully complete the development and commercialization of our product candidates. Other unanticipated costs may also arise. Furthermore, upon the completion of this offering, we expect to incur additional costs associated with operating as a public company. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on acceptable terms, we would be forced to delay, reduce, or eliminate our research and product development programs, future commercialization efforts or other operations.

As of June 30, 2024, we had approximately $ million in cash and cash equivalents. We expect 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 into . However, we have based this estimate on assumptions that may prove to be wrong, and our operating plan may change as a result of factors currently unknown to us, and we may need to seek funding sooner than planned. Our future capital requirements will depend on many factors, including:

- the timing and progress of research and development, preclinical and clinical development activities;
- the number, scope and duration of clinical trials required for regulatory approval of our current or future product candidates;
- the costs, timing, and outcome of regulatory review of any of our current or future product candidates in any jurisdictions in which we or our current or any future collaborators may seek approval for our current or future product candidates;
- the costs of manufacturing clinical and commercial supplies of our current or future product candidates;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for any of our current or future product candidates for which we receive regulatory approval;
- the costs of preparing, filing and prosecuting our patent applications, maintaining and enforcing our patents and other intellectual property rights and defending intellectual property-related claims;
- our ability to maintain existing, and establish new, strategic collaborations, licensing or other arrangements, and the financial terms of any such agreements, including the timing and amount of any future milestone, royalty or other payments due under any such agreement;

- our ability to establish and maintain collaboration and license agreements on favorable terms, if at all;
- the extent to which we acquire or in-license other product candidates and technologies;
- any product liability or other lawsuits related to our current or future product candidates;
- our implementation of various computerized informational systems and efforts to enhance operational systems;
- expenses incurred to attract, hire and retain skilled personnel;
- the costs of operating as a public company;
- our ability to establish a commercially viable pricing structure and obtain approval for coverage and adequate reimbursement from third-party and government payors;
- the extent to which we acquire or invest in businesses, products, and technologies;
- the effect of competing technological and market developments; and
- the impact of global economic uncertainty and geopolitical tensions, which may exacerbate the magnitude of the factors discussed above.

We expect our expenses to continue to increase in connection with our ongoing activities, particularly as we identify, continue the research and development of, initiate preclinical studies and clinical trials of, and seek marketing approval for, product candidates, and we may never generate the necessary data or results required to obtain regulatory approval and achieve product sales. In addition, our current or future product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of products that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all. 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. 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. Debt 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, declaring dividends, and possibly other restrictions.

Any additional fundraising efforts may divert our management from their day-to-day activities, which may adversely affect our ability to develop and commercialize our product candidates. We have no committed sources of additional capital and, if we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of our current or future product candidates or other research and development initiatives. Without sufficient funding, our license agreements and any future collaboration agreements may also be terminated if we are unable to meet the payment or other obligations under such agreements.

If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce, or terminate 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. Additionally, if we raise funds through additional 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 we develop, or we may have to grant licenses on terms that may not be favorable to us and/or that may reduce the value of our common stock.

We have never generated revenue from product sales and may never be profitable.

Our ability to generate revenue from product sales and achieve profitability depends on our ability, alone or with collaborative partners, to successfully complete the development of, obtain the regulatory approvals

necessary to commercialize and eventually commercialize, product candidates we may identify for development. We may not generate revenues from product sales for many years, if ever. Our ability to generate future revenues from product sales depends heavily on our or our collaborators' ability to successfully:

- identify product candidates and successfully complete research and development of any product candidates we may identify;
- advance our product candidates through preclinical and clinical development, including as we advance SEP-786 into later-stage clinical trials;
- seek and obtain regulatory approvals for any product candidates for which we successfully complete clinical trials;
- launch and commercialize any product candidates for which we may obtain regulatory approval by establishing a sales force, marketing and distribution infrastructure, or alternatively, collaborating with a commercialization partner;
- qualify for adequate coverage and reimbursement by government and third-party payors for any product candidates for which we may obtain regulatory approval;
- establish and maintain supply and manufacturing relationships with third parties that can provide adequate, in both amount and quality, products and services to support clinical development and the market demand for any product candidates for which we obtain regulatory approval;
- develop, maintain and enhance a sustainable, scalable, reproducible and transferable manufacturing process for the product candidates we may develop;
- address competing technological and market developments;
- negotiate favorable terms in any collaboration, licensing or other arrangements into which we may enter and performing our obligations in such collaborations;
- receive market acceptance by physicians, patients, healthcare payors, and others in the medical community;
- receive coverage and adequate reimbursement by healthcare payors;
- maintain, protect, enforce, defend and expand our portfolio of intellectual property and other proprietary rights, including patents, trade secrets and know-how;
- defend against third-party intellectual property claims of infringement, misappropriation or other violation; and
- attract, hire and retain qualified personnel.

Our expenses could increase beyond expectations if we are required by the FDA, European Medicines Agency (EMA), the competent authorities of individual European Union (EU) Member States, or other comparable foreign regulatory authorities to perform preclinical studies or clinical trials in addition to those that we currently anticipate. Even if one or more of the product candidates we may develop are approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Additionally, such products may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives. Even if we are able to generate revenues from the sale of any approved product candidates, we may not become profitable and may need to obtain additional funding to continue operations. Our failure to become and remain profitable may have an adverse effect on the value of our company and depress the market price of our common stock and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our product candidate pipeline, achieve our strategic objectives or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

Risks Related to Discovery, Development and Regulatory Approval of Product Candidates

We are early in our development efforts. We have only recently initiated early clinical studies, and as a result it will be years before we commercialize a product candidate, if ever. If we are unable to identify and advance product candidates through preclinical studies and clinical trials, obtain marketing approval and ultimately commercialize them, or experience significant delays in doing so, our business will be materially harmed.

The success of our business depends primarily upon our ability to identify, develop and commercialize product candidates. We are early in our development efforts and our lead product candidate, SEP-786, is in early clinical development and our other product candidates and development programs are in preclinical development or in the drug discovery stages. We have invested substantially all of our research efforts to date in developing our Native Complex Platform™, identifying potential product candidates and conducting preclinical and clinical studies. As an organization, we have limited experience in conducting and managing clinical trials necessary to obtain regulatory approvals, and we may be unable to do so for our product candidates. While we have successfully completed IND-enabling studies for SEP-786, our lead product candidate from our PTH1R program, and are initiating a Phase 1 clinical trial to assess preliminary safety, tolerability, PK, and PD of SEP-786, we have not yet completed any clinical trials for SEP-786 or any of our product candidates to date. Additionally, we have a portfolio of targets and programs that are in earlier stages of discovery or preclinical development and may never advance to clinical-stage development. If we are able to advance these other targets and programs into clinical development, we do not have experience managing multiple clinical trials simultaneously, working with global clinical trials, or working in multiple different disease indications. Our ability to achieve and sustain profitability depends on obtaining regulatory approvals for, and successfully commercializing our product candidates, either alone or with third parties, and we cannot guarantee you that we will ever obtain regulatory approval for any of our product candidates. Before obtaining regulatory approval for the commercial distribution of our product candidates, we must conduct extensive preclinical tests and clinical trials to demonstrate the safety and efficacy in humans of our product candidates.

We may not have the financial resources to continue development of, or to enter into new collaborations for, a product candidate if we experience any issues that delay or prevent regulatory approval of, or our ability to commercialize, product candidates, including:

- preclinical study results may show the product candidate to be less effective than desired or to have harmful or problematic side effects;
- negative or inconclusive results from our clinical trials or the clinical trials of others for product candidates similar to ours, leading to a decision or requirement to conduct additional preclinical testing or clinical trials or abandon a program;
- product-related side effects experienced by patients in our clinical trials or by individuals using product similar to our product candidates;
- our third-party manufacturers' inability to successfully manufacture our products;
- inability of any third-party contract manufacturer to scale up manufacturing of our product candidates and those of our collaborators to supply the needs of clinical trials or commercial sales;
- delays in submitting INDs or other comparable foreign applications or delays or failures in obtaining the necessary approvals from regulators to commence a clinical trial, or a suspension or termination of a clinical trial once commenced;
- preclinical studies conducted outside of the United States may be affected by tariffs or import/export restrictions imposed by the United States or other foreign governments;
- conditions imposed by the FDA, EMA or other comparable foreign regulatory authorities regarding the scope or design of our clinical trials;
- delays in enrolling patients in our clinical trials;

- high drop-out rates of our clinical trial patients;
- inadequate supply or quality of product candidate components or materials or other supplies necessary for the conduct of our clinical trials;
- inability to obtain alternative sources of supply for which we have a single source for product candidate components or materials;
- greater than anticipated costs of our clinical trials;
- manufacturing costs, formulation issues, pricing or reimbursement issues, or other factors that no longer make a product candidate economically feasible;
- harmful side effects or inability of our product candidates to meet efficacy endpoints during clinical trials;
- failure to demonstrate a benefit-risk profile acceptable to the FDA, EMA, or other comparable foreign regulatory authorities;
- unfavorable FDA, EMA, or other comparable foreign regulatory authority inspection and review of any of the clinical trial sites or manufacturing facilities used in the testing and manufacture of any of our product candidates;
- failure of our third-party contractors or investigators to comply with regulatory requirements or otherwise meet their contractual obligations in a timely manner, or at all;
- delays and changes in regulatory requirements, policy and guidelines, including the imposition of additional regulatory oversight around clinical testing generally or with respect to our technology in particular; or
- varying interpretations of our data by the FDA, EMA, and similar foreign regulatory authorities.

Our inability to complete development of, or commercialize our product candidates, or significant delays in doing so due to one or more of these factors, could have a material and adverse effect on our business, financial condition, results of operations and prospects.

Preclinical and clinical drug development is a lengthy and expensive process, with uncertain timelines and outcomes. If preclinical studies or clinical trials of our product candidates are prolonged or delayed, we may be unable to obtain required regulatory approvals, and therefore be unable to commercialize our therapeutic candidates or any of our future therapeutic candidates on a timely basis or at all.

Successful development of pharmaceutical products involves a lengthy and expensive process, is highly uncertain, and is dependent on numerous factors, many of which are beyond our control. Product candidates that appear promising in the early phases of development may fail to reach the market for several reasons, including:

- clinical trial results may show the product candidates to be less effective than expected (for example, a clinical trial could fail to meet its primary or key secondary endpoint(s)) or have an unacceptable safety or tolerability profile;
- failure to receive the necessary regulatory approvals or a delay in receiving such approvals, which, among other things, may be caused by patients who fail the trial screening process, slow enrollment in clinical trials, patients dropping out of trials, patients lost to follow-up, length of time to achieve trial endpoints, additional time requirements for data analysis or New Drug Application (NDA) or similar foreign application preparation, discussions with the FDA, EMA or other comparable foreign regulatory authorities, including FDA, EMA or other comparable foreign regulatory authorities requesting additional preclinical or clinical data (such as long-term toxicology studies), or encountering unexpected safety or manufacturing issues;

- preclinical study results may show the product candidate to be less effective than desired or to have harmful on-target or off-target side effects;
- imposition of extensive post-marketing approval requirements; or
- the proprietary rights of others and their competing products and technologies that may prevent our product candidates from being commercialized.

Furthermore, the length of time necessary to complete clinical trials and submit an application for marketing approval for a final decision by a regulatory authority varies significantly from one product candidate to the next and from one country or jurisdiction to the next and may be difficult to predict. Even if we are successful in obtaining marketing approval, commercial success of any approved products will also depend in large part on the availability of coverage and adequate reimbursement from third-party payors, including government payors such as the Medicare and Medicaid programs and managed care organizations in the United States or country-specific governmental organizations in foreign countries, which may be affected by existing and future healthcare reform measures designed to reduce the cost of healthcare. Third-party payors could require us to conduct additional studies, including post-marketing studies related to the cost effectiveness of a product, to qualify for reimbursement, which could be costly and divert our resources. If government and other healthcare payors were not to provide coverage and adequate reimbursement for our products once approved, market acceptance and commercial success would be reduced. Even if we are able to obtain coverage and adequate reimbursement for our products once approved, there may be features or characteristics of our products, such as dose preparation requirements, that prevent our products from achieving market acceptance by the healthcare or patient communities.

In addition, if any of our product candidates receive marketing approval, we will be subject to significant regulatory obligations regarding the submission of safety and other post-marketing information and reports and registration, and will need to continue to comply (or ensure that our third-party providers comply) with current Good Manufacturing Practice (cGMPs) and Good Clinical Practice (GCPs) for any clinical trials that we conduct post-approval. In addition, there is always the risk that we, a regulatory authority or a third party might identify previously unknown problems with a product post-approval, such as AEs of unanticipated severity or frequency. Compliance with these requirements is costly, and any failure to comply or other issues with our product candidates post-approval could adversely affect our business, financial condition and results of operations.

We may encounter substantial delays in the commencement, enrollment or completion of our planned clinical trials or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities, which could prevent us from commercializing any product candidates we determine to develop on a timely basis, if at all.

The risk of failure in developing product candidates is high. It is impossible to predict when or if any product candidate would prove effective or safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical development, submit an IND or comparable foreign application to permit initiation of clinical studies, and then conduct extensive clinical trials to demonstrate the safety and efficacy of product candidates in humans. We have not yet completed a clinical trial of any product candidate.

Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies that support our INDs and other regulatory filings. We cannot be certain of the timely identification of a product candidate or the completion or outcome of our preclinical testing and studies and cannot predict whether the FDA, EMA or other comparable foreign regulatory authorities will accept our proposed clinical programs or whether the outcome of our preclinical testing and studies will ultimately support the further development of any product candidates. Conducting preclinical testing is a lengthy, time-consuming and expensive process. The length of time may vary substantially according to the type, complexity and novelty of the program, and often can be several years or more per program. As a result, we cannot be sure that we will

be able to submit INDs or other comparable foreign regulatory submissions for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of INDs will result in the FDA, EMA, or other comparable foreign regulatory authority allowing clinical trials to begin.

Furthermore, product candidates are subject to continued preclinical safety studies, which may be conducted concurrently with our clinical testing. The outcomes of these safety studies may delay the launch of or enrollment in future clinical trials and could impact our ability to continue to conduct our clinical trials.

Clinical testing is expensive, is difficult to design and implement, can take many years to complete and is uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, or at all. A failure of one or more clinical trials can occur at any stage of testing, which may result from a multitude of factors, including, but not limited to, flaws in trial design, dose selection issues, patient enrollment criteria and failure to demonstrate favorable safety or efficacy traits.

Other events that may prevent successful enrollment, initiation or timely completion of clinical development include:

- we may be unable to generate sufficient preclinical, toxicology or other *in vivo* or *in vitro* data to support the initiation of clinical trials;
- delays in reaching a consensus with applicable regulatory authorities on trial design or implementation;
- delays in obtaining regulatory authorization to commence a clinical trial;
- delays in reaching agreement on acceptable terms with prospective CROs, other vendors, or clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different vendors and trial sites;
- delays in obtaining approval from one or more institutional review boards (IRB) refusing to approve, suspending or terminating the trial at an investigational site, precluding enrollment of additional participants, or withdrawing their approval of the trial;
- delays in recruiting suitable patients to participate in our ongoing and planned clinical trials;
- changes to the clinical trial protocol;
- clinical sites deviating from trial protocol such as the data collection omission we experienced at a clinical site as discussed above or dropping out of a trial;
- delays in manufacturing sufficient quantities of our product candidates for use in clinical trials, or delays in sufficiently developing, characterizing or controlling a manufacturing process suitable for clinical trials;
- delays in having our product candidates being shipped on time, clearing customs and arriving at clinical trial sites intact;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- participants choosing an alternative treatment for the indication for which we are developing our product candidates, or participating in competing clinical trials;
- lack of adequate funding to continue a clinical trial;
- occurrence of AEs or serious adverse events (SAEs) associated with the product candidate that are viewed to outweigh its potential benefits;
- occurrence of SAEs in clinical trials of the same class of agents conducted by other companies;
- imposition of a temporary or permanent clinical hold by regulatory authorities;

- selection of clinical trial end points that require prolonged periods of clinical observation or analysis of the resulting data;
- clinical trials producing negative or inconclusive results;
- a facility manufacturing our product candidates or any of their components being ordered by the FDA or comparable foreign authorities to temporarily or permanently shut down due to violations of cGMP regulations or other applicable requirements, or contamination or cross-contaminations of product candidates in the manufacturing process;
- third-party clinical investigators losing the licenses or permits necessary to perform our clinical trials, not performing our clinical trials on our anticipated schedule or consistent with the clinical trial protocol or other regulatory requirements or committing fraud; or
- changes in regulatory requirements, guidance, or feedback from regulatory agencies that require amending or submitting new clinical protocols or otherwise modifying the design of our clinical trials.

We could also encounter delays if a clinical trial is suspended or terminated by us, by the IRBs overseeing the conduct of such trials, by a Data Safety Monitoring Board for such trial or by the FDA, EMA, or other comparable foreign regulatory authorities. Such regulatory authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA, EMA, or other comparable regulatory foreign authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. In addition, changes in regulatory requirements and policies may occur, and we may need to amend clinical trial protocols to comply with these changes. Amendments may require us to resubmit our clinical trial protocols to IRBs for reexamination and approval, which may impact the costs, timing or successful completion of a clinical trial.

Further, conducting clinical trials in foreign countries, as we may do for our product candidates, presents additional risks that may delay completion of our clinical trials. These risks include the failure of enrolled patients in foreign countries to adhere to clinical protocols as a result of differences in healthcare services or cultural customs, managing additional administrative burdens associated with foreign regulatory requirements, as well as political, currency exchange and other economic risks relevant to such foreign countries. Investigators and patients may not be able to comply with clinical trial protocols if quarantines impede patient movement or interrupt healthcare services. Similarly, our ability to recruit and retain patients and principal investigators and site staff which in turn could adversely impact our clinical trial operations. Additionally, we may experience interruption of key clinical trial activities, such as clinical trial site monitoring, due to limitations on travel, quarantines or social distancing protocols imposed or recommended by federal or state governments, employers and others in connection with public health concerns. We may face delays in meeting our anticipated timelines for our ongoing and planned clinical trials, which could adversely affect our business, financial condition, results of operations and growth prospects.

Any inability to successfully complete preclinical and clinical development could result in additional costs to us or impair our ability to generate revenue from future product sales and regulatory and commercialization milestones. In addition, if we make manufacturing or formulation changes to our product candidates, we may need to conduct additional testing to bridge our modified product candidate to earlier versions. Clinical trial delays could also shorten any periods during which we may have the exclusive right to commercialize our product candidates, if approved, or allow our competitors to bring comparable products to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business, financial condition, results of operations and prospects.

Serious adverse events, undesirable side effects or other unexpected properties of our product candidates may be identified during development or after approval, which could lead to the discontinuation of our clinical development programs, refusal by regulatory authorities to approve our product candidates or, if discovered following marketing approval, revocation of marketing authorizations or limitations on the use of our product candidates, any of which would limit the commercial potential of such product candidate.

To date, we have not completed the evaluation of any product candidates in human clinical trials. It is impossible to predict when or if any product candidates we may develop will ultimately prove safe in humans. As is the case with pharmaceuticals generally, it is likely that there may be side effects and adverse events associated with our product candidates' use. Often, it is not possible to determine whether or not the product candidate being studied caused these conditions. Regulatory authorities may draw different conclusions or require additional testing to confirm these determinations, if they occur. In addition, it is possible that as we test our product candidates in larger, longer and more extensive clinical trials with a broader group of patients, or as use of these product candidates becomes more widespread if they receive marketing approval, illnesses, injuries, discomforts and other AEs that were observed in earlier trials, as well as conditions that did not occur or went undetected in previous trials, will be reported by participants. Many times, side effects are only detectable after investigational product candidates are tested in large-scale, Phase 3 trials or, in some cases, after they are made available to patients on a commercial scale after approval. If additional clinical experience indicates that any of our current or future product candidates has serious or life-threatening side effects or other side effects that outweigh the potential therapeutic benefit, the development of the product candidate may fail or be delayed, or, if the product candidate has received marketing approval, such approval may be revoked, which would harm our business, prospects, operating results and financial condition. In particular, because we are developing our product candidates for chronic indications, the FDA, EMA, and other comparable foreign regulatory authorities will likely require that our product candidates demonstrate a higher level of safety over a longer period of time than would be the case for product candidates intended for short-term use. Moreover, if we elect, or are required, to delay, suspend or terminate any clinical trial of our product candidates, the commercial prospects of our product candidates may be harmed and our ability to generate revenue through their sale may be delayed or eliminated. Any of these occurrences may harm our business, financial condition and prospects significantly.

Moreover, if our product candidates are associated with undesirable side effects in clinical trials or have characteristics that are unexpected, we may elect to abandon their development or limit their development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective, which may limit the commercial value for the product candidate if approved. We may also be required to modify our trial plans based on findings after we commence our clinical trials. Many compounds that initially showed promise in early-stage testing have later been found to cause side effects that prevented further development of the compound.

In addition, if any of our product candidates receive marketing approval, the FDA could require us to include a boxed warning in our label or adopt a REMS, to ensure that the benefits outweigh its risks, which may include, among other things, a medication guide outlining the risks of the drug for distribution to patients and a communication plan to health care practitioners. For example, the FDA required that the product label for NATPARA, an approved, injectable parathyroid hormone product targeting PTH1R for the management of hypoparathyroidism include a boxed warning related to the risk of osteosarcoma based on rodent carcinogenicity studies and also implemented a REMS Program to ensure patients and prescribers were appropriately counseled on the benefits and risks of the drug. Similarly, the FDA initially included boxed warnings for FORTEO and TYMLOS, injectable PTH peptides approved for osteoporosis due to the risk of osteosarcoma. While we have not yet conducted carcinogenicity studies for SEP-786, because it also targets PTH1R, it is possible that absent compelling data to the contrary, the FDA, EMA, and other comparable foreign regulatory authorities will similarly require a boxed warning for SEP-786 if it is approved for marketing. Furthermore, if we or others later identify undesirable side effects caused by our product candidates, several other potentially significant negative consequences could result, including:

- regulatory authorities may suspend or withdraw approvals of such product candidate;

- regulatory authorities may require additional warnings on the label, including "boxed" warnings, 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 a product candidate is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to patients;
- we could be subject to fines, injunctions, or the imposition of criminal or civil penalties;
- we may need to conduct a recall;
- we may be forced to suspend marketing of that product, or decide to remove the product from the marketplace; and
- the product may become less competitive, and our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of our product candidates and could significantly harm our business, prospects, financial condition and results of operations.

Our product candidates are subject to extensive regulation and compliance obligations, which is costly and time-consuming and which may cause unanticipated delays or prevent the receipt of the required approvals to commercialize our product candidates.

The research, clinical development, testing, quality control, safety, effectiveness, manufacturing, labeling, packaging, storage, record-keeping, advertising, promotion, marketing, import, export, distribution, post-approval monitoring, and post-approval reporting of our product candidates are subject to extensive regulation by the FDA in the United States and by comparable foreign regulatory authorities in foreign markets. In the United States, neither we nor any future collaborators are permitted to market our product candidates until we receive regulatory approval from the FDA. The process of obtaining regulatory approval is expensive, often takes many years following the commencement of clinical trials and can vary substantially based upon the type, complexity and novelty of the product candidates involved, as well as the target indications and patient population. Approval policies or regulations may change, new relevant statutes or regulations may be enacted, and the FDA, EMA and other comparable foreign regulatory authorities have substantial discretion in the drug approval process, including the ability to delay, limit or deny approval of a product candidate for many reasons. Despite the time and expense invested in clinical development of product candidates, regulatory approval is never guaranteed.

Prior to obtaining approval to commercialize a product candidate in the United States or abroad, we or our potential future collaborators must demonstrate with substantial evidence from adequate and well-controlled clinical trials, and to the satisfaction of the FDA, EMA or other comparable foreign regulatory authorities, that such product candidates are safe and effective for their intended uses. Results from preclinical studies and clinical trials can be interpreted in different ways. Even if we believe the preclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA, EMA and other comparable foreign regulatory authorities, which could require us to delay or abandon clinical development plans. In addition, regulatory authorities may require us to conduct further preclinical studies before evaluating our product candidate in a clinical trial. Once we initiate clinical trials, the FDA, EMA, or other comparable foreign regulatory authorities may require additional clinical trials or suggest changes to our planned clinical trials, prior to and in support of the approval of a NDA or equivalent foreign marketing application. Changes to data requirements by the FDA, EMA, or other comparable foreign regulatory authorities during the development of our product candidates may cause the applicable regulatory authorities to require us to conduct additional preclinical studies or clinical trials for our product candidates either prior to or post-approval, or regulatory authorities may object to elements of our clinical development program.

The FDA, EMA or other comparable foreign regulatory authorities can delay, limit or deny approval of a product candidate for many reasons, including:

- such authorities may disagree with the design or implementation of our clinical trials;
- negative or ambiguous results from our clinical trials or results may not meet the level of statistical significance required by the FDA, EMA or other comparable foreign regulatory authorities for approval;
- serious and unexpected drug-related side effects may be experienced by participants in our clinical trials or by individuals using drugs similar to our product candidates;
- the population studied in the clinical trial may not be sufficiently broad or representative to assure safety in the full population for which we seek approval;
- such authorities may not accept clinical data from trials which are conducted at clinical facilities or in countries where the standard of care is potentially different from that of the United States;
- we may be unable to demonstrate that a product candidate is safe and effective, and that a product candidate's clinical and other benefits outweigh its safety risks;
- such authorities may disagree with our interpretation or analysis of data from preclinical studies or clinical trials; such authorities may not agree that the data collected from clinical trials of our product candidates are acceptable or sufficient to support the submission of an NDA or other submission or to obtain regulatory approval in the United States or elsewhere, and such authorities may impose requirements for additional preclinical studies or clinical trials;
- such authorities may disagree regarding the formulation, labeling and/or the specifications of our product candidates;
- approval may be granted only for indications that are significantly more limited than what we apply for and/or with other significant restrictions on distribution and use;
- such authorities may find deficiencies in the manufacturing processes, approval policies or facilities of our third-party manufacturers with which we or any of our current or future collaborators contract for clinical and commercial supplies; or
- the approval policies or regulations of such authorities may significantly change in a manner rendering our or any of our potential future collaborators' clinical data insufficient for approval.

With respect to foreign markets, approval procedures vary among countries and, in addition to the foregoing risks, may involve additional product testing, administrative review periods and agreements with pricing authorities. In addition, events raising questions about the safety of certain marketed pharmaceuticals may result in increased cautiousness by the FDA, EMA, and other comparable foreign regulatory authorities in reviewing new drugs based on safety, efficacy or other regulatory considerations and may result in significant delays in obtaining regulatory approvals. Any delay in obtaining, or inability to obtain, applicable regulatory approvals would prevent us or any of our potential future collaborators from commercializing our product candidates.

Of the large number of drugs in development, only a small percentage successfully complete the FDA, EMA, or foreign regulatory approval processes and are commercialized. The lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market our product candidates, which would significantly harm our business, financial condition, results of operations and prospects.

Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be made more difficult or rendered impossible by multiple factors outside our control, which could adversely affect our business, operating results and prospects.

Patient enrollment and retention in clinical trials is a significant factor in the timing of clinical trials and depends on many factors, including the size and nature of the patient population, the nature of the trial protocol, the existing body of safety and efficacy data with respect to the study drug, the number, nature and duration of competing treatments and ongoing clinical trials of competing drugs for the same indication, the proximity of patients to clinical trial sites and the eligibility criteria for the clinical trial. As we progress our programs we may not be able to initiate or continue clinical trials for any product candidates we identify or develop if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA, EMA, or other comparable foreign authorities, or as needed to provide appropriate statistical power for a given trial. For certain of our product candidates, the conditions which we may evaluate include rare diseases with limited patient pools from which to draw. In some cases, patient populations for rare diseases are located at specific academic sites focused on such indications, often with multiple competing clinical trials. Potential patients for any planned clinical trials may not be adequately diagnosed or identified with the diseases which we are targeting or may not meet the entry criteria for such trials. We also may encounter difficulties in identifying and enrolling patients with a stage of disease appropriate for our planned clinical trials and monitoring such patients adequately during and after treatment. As noted above, other pharmaceutical companies targeting these same diseases are recruiting clinical trial patients from these patient populations, which may make it more difficult to fully enroll our clinical trials. In addition, the process of finding and diagnosing patients may prove costly.

The eligibility criteria of our clinical trials, once established, may further limit the pool of available trial participants. If the actual number of patients with these diseases is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development and approval of our product candidates. Even once enrolled we may be unable to retain a sufficient number of patients to complete any of our trials.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the study until its conclusion. We may experience difficulties in patient enrollment or retention in our clinical trials for a variety of reasons. Patient enrollment and retention in clinical trials depends on many factors, including:

- the size and nature of the patient population, in particular for rare diseases such as the diseases on which we are focused initially, and process for identifying patients;
- the severity of the disease under investigation;
- the design of the trial protocol;
- the existing body of safety and efficacy data for the product candidate;
- the number and nature of competing treatments and ongoing clinical trials of competing therapies for the same indication;
- the proximity and availability of clinical trial sites for patients;
- the eligibility criteria for the trial;
- the complexity of the trial, including number of office visits, lab tests, patient evaluations, and dosing regimens;
- the ability to recruit clinical trial investigators with the appropriate competencies and experience;
- the ability to adequately monitor patients during a trial, clinicians' and patients' perceptions as to the potential advantages of the product candidate being studied;

- the risk that enrolled patients will drop out of a trial before completing all site visits; and
- clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies.

Furthermore, our efforts to build relationships with patient communities may not succeed, which could result in delays in patient enrollment in our clinical trials. In addition, any negative results we may report in clinical trials of our product candidate may make it difficult or impossible to recruit and retain patients in other clinical trials of that same product candidate. Delays or failures in planned patient enrollment or retention may result in increased costs, program delays or both, which could have a harmful effect on our ability to develop our product candidates, or could render further development impossible. Further, if patients drop out of our clinical trials, miss scheduled doses or follow-up visits, or otherwise fail to follow clinical trial protocols, the integrity of data from our clinical trials may be compromised or not accepted by the FDA, EMA, or other comparable foreign regulatory authorities, which would represent a significant setback for the applicable program. In addition, we may rely on CROs and clinical trial sites to ensure proper and timely conduct of our future clinical trials and, while we intend to enter into agreements governing their services, we will be limited in our ability to compel their actual performance. Such delays or failures could adversely affect our business, operating results and prospects.

Even if we receive regulatory approval of any 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.

If any of our product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies and submission of safety, efficacy and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities. In addition, we will be subject to continued compliance with cGMP and GCP requirements for any clinical trials that we conduct post-approval.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA, EMA and other comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to cGMP regulations and applicable product tracking and tracing requirements. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any NDA, other marketing application and previous responses to inspection 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.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials and surveillance to monitor the safety and efficacy of the product candidate. Certain endpoint data we hope to include in any approved product labeling also may not make it into such labeling, including exploratory or secondary endpoint data such as patient-reported outcome measures. The FDA may also require a risk evaluation and mitigation strategies (REMS) program as a condition of approval of our product candidates, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA, EMA or other comparable foreign regulatory authority approves our product candidates, we will have to comply with requirements including submissions of safety and other post-marketing information and reports and registration.

The FDA may impose consent decrees or 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 our product candidates, including adverse events (AEs) of unanticipated severity or frequency, or with our third-party manufacturers 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 trials to assess new safety risks or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our products, withdrawal of the product from the market or voluntary product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or suspension or withdrawal of 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.

Additionally, under the Food and Drug Omnibus Reform Act (FDORA) sponsors of approved drugs and biologics must provide six months' notice to the FDA of any changes in marketing status, such as the withdrawal of a drug, and failure to do so could result in the FDA placing the product on a list of discontinued products, which would revoke the product's ability to be marketed. The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Products may be promoted only for the approved indications and in accordance with the provisions of the approved label. The policies of the FDA, EMA and other comparable foreign regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. In addition, the U.S. Supreme Court's July 2024 decision to overturn established case law giving deference to regulatory agencies' interpretations of ambiguous statutory language has introduced uncertainty regarding the extent to which the FDA's regulations, policies and decisions may become subject to increasing legal challenges, delays, and/or changes. As a result of the Supreme Court's decision, the FDA and other agencies may be less inclined to engage in formal regulation and may rely to a greater degree on informal guidance, which may not always be susceptible to immediate challenge. We cannot predict the likelihood, nature or extent of government regulation or guidance that may arise from future court decisions, legislation, or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or guidance or the adoption of new requirements, guidance, or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

If we do not achieve our projected development goals in the time frames we announce and expect, the commercialization of our therapeutics may be delayed and, as a result, our stock price may decline.

From time to time, we estimate the timing of the anticipated accomplishment of various scientific, clinical, regulatory and other product development goals, which we sometimes refer to as milestones. These milestones may include our expectations regarding the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings. From time to time, we may publicly announce the expected timing of some of these milestones, such as the completion of an ongoing clinical trial or the initiation of other clinical programs. All of these milestones are and will be based on numerous assumptions, including:

- our available capital resources or capital constraints we experience;
- the rate of progress, costs and results of our clinical trials and research and development activities, including the extent of scheduling conflicts with participating clinicians and collaborators;
- our ability to identify and enroll patients who meet clinical trial eligibility criteria;
- our receipt of approvals by the FDA, EMA, and other comparable foreign regulatory authorities and the timing thereof;

- other actions, decisions or rules issued by regulators;
- our ability to access sufficient, reliable and affordable supplies of materials used to manufacture our product candidates;
- the efforts of our collaborators with respect to the commercialization of our product candidates; and
- the securing of, costs related to, and timing issues associated with, product manufacturing as well as sales and marketing activities.
- Securing product reimbursement

The actual timing of these milestones can vary dramatically compared to our estimates, in some cases for reasons beyond our control. If we do not meet these milestones as publicly announced, or at all, the commercialization of our product candidates may be delayed or never achieved and, as a result, our stock price may decline.

Results of preclinical studies and early clinical trials on any of our product candidates may not be predictive of results of future clinical trials.

The outcome of preclinical studies and early clinical trials may not be predictive of the success of later clinical trials. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials after achieving positive results in early-stage development, and we cannot be certain that we will not face similar setbacks. These setbacks have been caused by, among other things, preclinical findings made while clinical trials were underway or safety or efficacy observations made in preclinical studies and clinical trials, including previously unreported adverse events. In addition, while the animal models used in preclinical studies are designed to be representative of disease states in humans, these preclinical models may not be able to accurately predict the way a product candidate will affect patients in clinical trials. We have limited experience in designing clinical trials and may be unable to design and execute a clinical trial to support regulatory approval. In addition, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their product candidates.

In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same product candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen, product formulation and other clinical trial protocols and the rate of dropout among clinical trial patients. If we fail to receive positive results in clinical trials of our product candidates, the development timeline and regulatory approval and commercialization prospects for our most advanced product candidates, and, correspondingly, our business and financial prospects would be negatively impacted.

We may expend our limited resources to pursue a particular product candidate and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

We have limited financial and managerial resources, and to date, we have focused on research programs and product candidates within the endocrinology, immunology and inflammation, neurology and metabolic therapeutic areas, with a particular focus on our lead product candidate, SEP-786. Correctly prioritizing our research and development activities is particularly important for us due to the breadth of potential product candidates and indications that we believe could be pursued by leveraging our Native Complex Platform™. As a result, we may forgo or delay pursuit of opportunities with other product candidates or in other therapeutic areas that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to timely capitalize on viable commercial products or profitable market opportunities. Our spending on current and

future research and development programs and product candidates for specific indications may not yield any commercially viable products. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. We must continually assess the potential commercial viability of our research programs and product candidates, and we may decide to pause or discontinue development of any of our product candidates based upon such assessments, even if we obtain positive data from our product candidates in preclinical studies and clinical trials.

Our proprietary Native Complex Platform™ is based on novel technologies that are unproven and may not result in approvable or marketable products, which exposes us to unforeseen risks and makes it difficult for us to predict the time and cost of product development and potential for regulatory approval, and we may not be successful in our efforts to expand our development portfolio of product candidates.

A key element of our strategy is to use our proprietary Native Complex Platform™ to overcome the historical limitations of G protein-coupled receptor (GPCR) drug development, including the isolation, purification and stabilization of GPCRs in their native forms, in order to build a robust and diverse portfolio of potentially first-in-class and best-in-class oral small molecule therapies that address both well-validated and novel GPCR targets.

We have only recently commenced our first clinical trial of the first candidate developed with our platform. The scientific research that forms the basis of our efforts to develop product candidates with our platform is still ongoing. We are not aware of any FDA approved therapeutics utilizing the technology underlying our platform. Further, the scientific evidence to support the feasibility of developing therapeutic treatments based on our platform is both preliminary and limited. As a result, we are exposed to a number of unforeseen risks and it is difficult to predict the types of challenges and risks that we may encounter during development of our product candidates. For example, we have not yet generated any meaningful clinical data on any of the product candidates being developed using our platform, and our current data is limited to animal models and preclinical cell lines, the results of which may not translate into humans. Further, relevant animal models and assays may not accurately predict the safety and efficacy of our product candidates in humans, and we may encounter significant challenges creating appropriate models and assays for demonstrating the safety and purity of our product candidates.

Given the novelty of our technology, we intend to work closely with the FDA and comparable foreign regulatory authorities to perform the requisite scientific analyses and evaluation of our methods to obtain regulatory approval for our product candidates; however, due to a lack of comparable experiences, the regulatory pathway with the FDA and comparable regulatory authorities may be more complex and time-consuming relative to other more well-known therapeutics. Even if we obtain human data to support our product candidates, the FDA or comparable foreign regulatory authorities may lack experience in evaluating the safety and efficacy of product candidates like those developed using our platform, which could result in a longer than expected regulatory review process, increase our expected development costs, and delay or prevent commercialization of our product candidates. We cannot be certain that our approach will lead to the development of approvable or marketable products, alone or in combination with other therapies.

Although our research and development efforts to date have resulted in a development portfolio of potential programs and product candidates, we may not be able to discover or identify novel chemical matter to new GPCR targets and thus not be able to develop product candidates to expand our development portfolio. We may also pursue opportunities to acquire or in-license additional businesses, technologies or products, form strategic alliances or create joint ventures with third parties to complement or augment our existing business. However, we may not be able to identify any product candidates through such acquisition or in-license.

Even if we are successful in continuing to build and expand our development portfolio, the potential product candidates that we identify may not be suitable for clinical development. For example, they may be shown to

have harmful side effects or other characteristics that indicate that they are unlikely to be drugs that will be successful in clinical trials or receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize product candidates, we will not be able to obtain drug revenues in future periods, which likely would result in significant harm to our financial position and adversely affect our stock price.

Preliminary, topline and interim data from our clinical trials 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 interim, preliminary or topline data from our preclinical studies and planned clinical trials, which are 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 trial. 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 made public. 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 clinical trials. Interim data from clinical trials 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 topline, preliminary or interim data and final data could significantly harm our business prospects.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular product, product candidate or our business. If the 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.

We may develop our current or future product candidates in combination with other therapies, which would expose us to additional risks.

We may develop our current or potential future product candidates in combination with one or more currently approved therapies or therapies in development. Even if any of our current or future product candidates were to receive marketing approval or be commercialized for use in combination with other existing therapies, we would continue to be subject to the risks that the FDA, EMA or other comparable foreign regulatory authorities could revoke approval of the therapy used in combination with any of our product candidates, or safety, efficacy, manufacturing or supply issues could arise with these existing therapies. In addition, it is possible that existing therapies with which our product candidates are approved for use could themselves fall out of favor or be relegated to later lines of treatment. This could result in the need to identify other combination therapies for our product candidates or our own products being removed from the market or being less successful commercially.

We may also evaluate our current or future product candidates in combination with one or more other therapies that have not yet been approved for marketing by the FDA, EMA or other comparable foreign regulatory authorities. We will not be able to market and sell any product candidate in combination with any such unapproved therapies that do not ultimately obtain marketing approval.

Furthermore, we cannot be certain that we will be able to obtain a steady supply of such therapies for use in developing combinations with our product candidates on commercially reasonable terms or at all. Any failure to obtain such therapies for use in clinical development and the expense of purchasing therapies in the market may delay our development timelines, increase our costs and jeopardize our ability to develop our product candidates as commercially viable therapies. If the FDA, EMA or other comparable foreign regulatory authorities do not approve or withdraw their approval of these other therapies, or if safety, efficacy, commercial adoption, manufacturing or supply issues arise with the therapies we choose to evaluate in combination with any of our current or future product candidates, we may be unable to obtain approval of or successfully market any one or all of the current or future product candidates we develop. Additionally, if the third-party providers of therapies or therapies in development used in combination with our current or future product candidates are unable to produce sufficient quantities for clinical trials or for commercialization of our current or future product candidates, or if the cost of combination therapies are prohibitive, our development and commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and growth prospects.

Risks Related to Commercialization, Marketing and Competition

We currently have no marketing and sales organization and have no experience as a company in commercializing products, and we may invest significant resources to develop these capabilities. If we are unable to establish marketing, sales or distribution capabilities or enter into agreements with third parties to market and sell our products, we may not be able to generate product revenue.

We have no internal sales, marketing or distribution capabilities, nor have we as a company commercialized a product. If any of our product candidates ultimately receives marketing approval, we will be required to build a marketing and sales organization with technical expertise and supporting distribution capabilities to commercialize each such product in the markets that we target, which will be expensive and time consuming, or collaborate 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 have no prior experience as a company in the marketing, sale and distribution of pharmaceutical products and there are significant risks involved in building and managing a sales organization, including our ability to hire, retain and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel and effectively manage a geographically dispersed sales and marketing team. Furthermore, we are currently developing products for multiple indications in different medical specialties, which will require us to build different sales and marketing capabilities that are tailored to a given product or medical specialty. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products. We may not be able to enter into collaborations or hire consultants or external service providers to assist us in sales, marketing and distribution functions on acceptable financial terms, or at all. In addition, our product revenues and our profitability, if any, may be lower if we rely on third parties for these functions than if we were to market, sell and distribute any products that we develop ourselves. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we are not successful in commercializing our products, either on our own or through arrangements with one or more third parties, we may not be able to generate any future product revenue and we would incur significant additional losses.

Even if any of our current or future product candidates receive marketing approval, such product candidate may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success, in which case we may not generate significant revenues or become profitable.

We have never commercialized a product, and even if any of our current or future product candidates are approved by the appropriate regulatory authorities for marketing and sale, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. Historically, several injectable PTH peptides have been approved by the FDA and other regulatory authorities for treatment of hypoparathyroidism and osteoporosis. However, our lead product candidate is an oral small molecule agonist; to date, no such oral small molecule in this indication has been approved by the FDA or any other regulatory agency. Market participants with significant influence over acceptance of new treatments, such as clinicians and third-party payors, may not adopt new oral treatments for hypoparathyroidism or osteoporosis, and we may not be able to convince the medical community and third-party payors to accept and use, or to provide favorable reimbursement for, any product candidates developed by us or our existing or future collaborators. If our current or future product candidates do not achieve an adequate level of acceptance, we may not generate significant product revenue and may not become profitable. The degree of market acceptance of our current or future product candidates, if approved for commercial sale, will depend on a number of factors, including but not limited to:

- the clinical indications and patient populations for which the product candidate is approved;
- the safety, efficacy and potential advantages compared to alternative treatments and therapies;
- the timing of market introduction of the product as well as competitive products;
- effectiveness of sales and marketing efforts;
- the strength of our relationships with patient communities;
- the cost of treatment in relation to alternative treatments and therapies, including any similar generic treatments;
- our ability to offer such product for sale at competitive prices;
- the convenience and ease of administration compared to alternative treatments and therapies;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the availability of third-party coverage and adequate reimbursement;
- the willingness of patients to pay out-of-pocket in the absence of coverage and adequate reimbursement by third-party payors and government authorities;
- the strength of marketing and distribution support;
- the inclusion of any REMS program or other restrictions included by the regulators;
- the prevalence and severity of any side effects; and
- any restrictions on the use of the product together with other medications.

Our efforts to educate physicians, patients, third-party payors and others in the medical community on the benefits of our product candidates may require significant resources and may never be successful. Because we expect sales of our product candidates, if approved, to generate substantially all of our revenues for the foreseeable future, the failure of our product candidates, if approved, to find market acceptance would harm our business and could require us to seek additional financing.

Even if we are able to commercialize any product candidate, the third-party payor coverage and reimbursement status of newly-approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our product candidates could limit our ability to market those products and decrease our ability to generate revenue.

The availability and adequacy of coverage and reimbursement by governmental healthcare programs such as Medicare and Medicaid, private health insurers and other third-party payors in the United States are essential for most patients to be able to afford treatments such as our products or product candidates, if approved. Our ability to achieve acceptable levels of coverage and reimbursement for drug treatments by governmental authorities, private health insurers and other organizations will have an effect on our ability to successfully commercialize our products, and potentially attract additional collaboration partners to invest in the development of our product candidates. We cannot be sure that adequate coverage and reimbursement in the United States, the EU, Australia or elsewhere will be available for our products or any products that we may develop, and any reimbursement that may become available may be decreased or eliminated in the future. For more information, see the section titled "Business–Government Regulation–Coverage and Reimbursement."

Third-party payors increasingly are challenging prices charged for pharmaceutical products, medical devices and services, and many third-party payors may refuse to provide coverage and reimbursement for particular drugs when an equivalent generic drug is available. It is possible that a third-party payor may consider our products or product candidates, if approved, and the generic or biosimilar parent drug as substitutable and only offer to reimburse patients for the generic drug. Even if we show improved efficacy or safety or improved convenience of administration with our products or product candidates, if approved, pricing of the existing parent drug may limit the amount we will be able to charge for such product. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize our products or product candidates, and may not be able to obtain a satisfactory financial return on products that we may develop.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. In the United States, third-party payors, including private and governmental payors, such as the Medicare and Medicaid programs, play an important role in determining the extent to which new drugs, biologics and medical devices will be covered. The Medicare and Medicaid programs increasingly are used as models for how private payors and other governmental payors develop their coverage and reimbursement policies for drugs, biologics and medical devices. It is difficult to predict at this time what third-party payors will decide with respect to the coverage and reimbursement for our products or product candidates.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe, Canada, and other countries has and will continue to put pressure on the pricing and usage of our products and product candidates, if approved, and on related parent drugs. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. Many countries, including the EU Member States, established complex and lengthy procedures to obtain price approvals, coverage and reimbursement. These procedures vary from country to country but are commonly initiated after grant of the related marketing authorization. More particularly, in the EU, potential reductions in prices and changes in reimbursement levels could be the result of different factors, including reference pricing systems. It could also result from the application of external reference pricing mechanisms, which consist of arbitrage between low-priced and high-priced countries. Reductions in the pricing of our medicinal products in one EU Member State could affect the price in other EU Member States and, thus, have a negative impact on our financial results. Other countries allow companies to fix their own prices for medical products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our products or product candidates. Accordingly, in markets outside the United States, the reimbursement for our products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenue and profits. As an example, many EU Member States review periodically their decisions concerning the pricing and reimbursement of medicinal products. The

outcome of these reviews cannot be predicted and could have adverse effects on the pricing and reimbursement of our medicinal products in the EU Member States.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for new products approved and, as a result, they may not cover or provide adequate payment for our products or product candidates. We expect to experience pricing pressures in connection with the sale of our products and product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs, medical devices and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products.

We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than us.

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition, and a strong emphasis on proprietary and novel products and product candidates. While we believe our product candidates, platform, knowledge, experience and scientific personnel provide us with several key competitive advantages, we face competition from major pharmaceutical and biotechnology companies, academic institutions, governmental agencies and public and private research institutions, among others. Our future success will depend in part on our ability to maintain a competitive position with our structure-based drug discovery platform. If we fail to stay at the forefront of technological change in utilizing our platform to create and develop product candidates, we may be unable to compete effectively. Our competitors may render our approach obsolete by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages in our drug discovery process that we believe we derive from our research approach and platform. Several other companies also focus on GPCRs and have platform technologies that are distinct from the Native Complex Platform™, including Nxera Pharma (formerly Sosei Heptares), Structure Therapeutics, Tectonic Therapeutics, and Confo Therapeutics.

In addition, we face competition with respect to our current product candidates and will face competition with respect to any other product candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are several large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of product candidates for the treatment of the indications that we are pursuing. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

We are aware of several pharmaceutical companies that have commenced clinical trials of product candidates or have successfully commercialized products addressing areas that we are targeting. Takeda owns the rights to parathyroid hormone product (brand name NATPARA) for the treatment of hypoparathyroidism. NATPARA was voluntarily recalled due to manufacturing issues in September 2019 in the United States and is now only available to a limited number of patients through a Special Use Program offered by its manufacturer. In October 2022, Takeda announced manufacturing of all strengths of NATPARA will be discontinued globally by the end of 2024. Ascendis Pharma received regulatory approval for a proprietary once-daily injectable PTH peptide, palopegteriparatide (brand name YORVIPATH), in Europe and the company has submitted an NDA which is currently under review by the FDA with a PDUFA date of August 14, 2024. In March 2024, AstraZeneca acquired Amolyt Pharma, who was developing eneboparatide, a proprietary, once-daily injectable PTH peptide, for hypoparathyroidism, currently in Phase 3 studies. In addition, we are aware of several academic groups and companies working on making longer-acting agonists of the PTH1R. Other companies and groups are developing or commercializing therapies for hypoparathyroidism, including Calcilytix (a BridgeBio company), Entera Bio, Extend Biosciences, and MBX Biosciences. Several companies are developing clinical-stage small

molecule MRGPRX2 inhibitors, including Escient Pharmaceuticals (acquired by Incyte Pharmaceuticals in April 2024), Evommune, and BioArdis. Further there are several other companies pursuing therapies for CSU addressing other receptors of interest, such a Genentech, Sanofi, Celldex Therapeutics, Jasper Therapeutics, Acelyrin, Allakos, Novartis, Third Harmonic Bio, and Blueprint Medicines. For TSHR, we are aware that Byondis and Crinetics are also working on research stage compounds, but they have not yet entered clinical development. In addition several companies are working on other mechanisms to address Graves' disease, such as Immunovant, and TED, including Amgen, Viridian, Argenx, Roche, Lassen Therapeutics, Tourmaline Bio, Sling Therapeutics, and Acelyrin. There are also several currently approved injectable products targeting incretin receptors for the treatment of obesity or T2D. These include, but are not limited to, products such as Ozempic and Wegovy (semaglutide, marketed by Novo Nordisk) for T2D and obesity, respectively, Trulicity (dulaglutide, marketed by Eli Lilly and Company) for T2D, and Mounjaro and Zepbound (tirzepatide, marketed by Eli Lilly and Company) for T2D and obesity, respectively. There are also several injectable peptide products in development pursuing similar indications with similar mechanism of actions along with combination products, including those being developed by Amgen, AstraZeneca, Boehringer Ingelheim, Eli Lilly and Company, Novo Nordisk, Roche, and Viking, among others. In addition, there are oral products such as Rybelsus (semaglutide, marketed by Novo Nordisk) approved for patients with T2D and other oral products in development for treating obesity or T2D, including those being developed by AstraZeneca, Eli Lilly and Company, Pfizer, Roche, Structure, and Terns. Based on our continuing evaluations of the competitive landscape, we may decide to reallocate resources and reprioritize our development programs if we determine that a particular product candidate or target indication is no longer commercially viable or advantageous.

Many of our competitors, either alone or with their collaborators, have significantly greater financial, technical, manufacturing, marketing, sales and supply resources or experience than we do. If we successfully obtain approval for any product candidate, we will face competition based on many different factors, including the safety and effectiveness of our products, the timing and scope of marketing approvals for these products, the availability and cost of manufacturing, marketing and sales capabilities, price, reimbursement coverage and patent position. Competing products could present superior treatment alternatives, including by being more effective, safer, more convenient, less expensive or marketed and sold more effectively than any products we may develop. Competitive products may make any products we develop obsolete or noncompetitive before we recover the expense of developing and commercializing our product candidates. 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.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific, management and commercial personnel, establishing clinical trial sites and subject registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Any failure to compete effectively could harm our business, financial condition and operating results.

EU drug marketing and reimbursement regulations may materially affect our ability to market and receive coverage for our products in the EU Member States.

We intend to seek approval to market our product candidates in both the United States and in selected foreign jurisdictions, including the EU. If we obtain approval in one or more foreign jurisdictions for our product candidates, we will be subject to rules and regulations in those jurisdictions. In some foreign countries, particularly those in the EU, the pricing of products is subject to governmental control and other market regulations which could put pressure on the pricing and usage of our product candidates. In these countries, pricing negotiations with governmental authorities can take considerable time after obtaining marketing approval of a product candidate. In addition, market acceptance and sales of our product candidates will depend significantly on the availability of adequate coverage and reimbursement from third-party payors for our product candidates and may be affected by existing and future healthcare reform measures.

Much like the federal Anti-Kickback Statute prohibition in the United States, the provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is also prohibited in the EU. The provision of benefits or advantages to reward improper performance is typically governed by the national anti-bribery laws of EU Member States and the Bribery Act 2010 in the United Kingdom. Infringement of these laws could result in substantial fines and imprisonment. EU Directive 2001/83/EC, which is the EU Directive governing medicinal products for human use, further provides that, where medicinal products are being promoted to persons qualified to prescribe or supply them, no gifts, pecuniary advantages or benefits in kind may be supplied, offered or promised to such persons unless they are inexpensive and relevant to the practice of medicine or pharmacy. This provision has been transposed into the Human Medicines Regulations 2012 and so remains applicable in the United Kingdom despite its departure from the EU.

Payments made to physicians in certain EU Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual EU Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct, applicable in the EU Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

In addition, in some foreign countries, including some countries in the EU, the proposed pricing for a product must be approved before it may be lawfully marketed. The requirements governing product pricing and reimbursement vary widely from country to country. For example, some EU Member States have the option to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. Reference pricing used by various EU Member States and parallel distribution, or arbitrage between low-priced and high-priced EU Member States, can further reduce prices. An EU Member State 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. In some countries, we may be required to conduct a clinical trial or other studies that compare the cost-effectiveness of any of our product candidates to other available therapies in order to obtain or maintain reimbursement or pricing approval. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our product candidates. Historically, products launched in the EU do not follow price structures of the United States and generally prices tend to be significantly lower. Publication of discounts by third-party payors or authorities may lead to further pressure on the prices or reimbursement levels within the country of publication and other countries. If pricing is set at unsatisfactory levels or if reimbursement of our products is unavailable or limited in scope or amount, our revenues from sales and the potential profitability of any of our product candidates in those countries would be negatively affected.

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

Obtaining and maintaining marketing approval of our product candidates in one jurisdiction does not guarantee that we will be able to obtain or maintain marketing approval in any other jurisdiction. For example, even if the FDA grants marketing approval of a product candidate, it does not mean that comparable foreign regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion and reimbursement of the product candidate in those countries. However, a failure or delay in obtaining marketing approval in one jurisdiction may negatively impact the marketing approval process in others. Approval 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 studies or clinical trials, as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval.

Obtaining foreign marketing approvals and establishing and maintaining 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 in certain countries. If we or any future collaborator fail to comply with the regulatory requirements in international markets or fail to receive applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our product candidates will be harmed, which would adversely affect our business, prospects, financial condition, and results of operations.

Our future growth may depend, in part, on our ability to commercialize products in foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties.

Our future growth may depend, in part, on our ability to develop and commercialize our product candidates in foreign markets. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from applicable regulatory authorities in foreign markets, and we may never receive such regulatory approvals for any of our product candidates. To obtain separate regulatory approval in many other countries we must comply with numerous and varying regulatory requirements regarding safety and efficacy and governing, among other things, clinical trials, manufacturing, commercial sales, pricing and distribution of our product candidates. If we obtain regulatory approval of our product candidates and ultimately commercialize our products in foreign markets, we would be subject to additional risks and uncertainties, including:

- different regulatory requirements for approval of drugs in foreign countries;
- reduced protection for intellectual property rights;
- the existence of additional third-party patent rights of potential relevance to our business;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- foreign reimbursement, pricing and insurance regimes;
- workforce uncertainty in countries where labor unrest is common;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad;
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires; and
- business interruptions resulting from pandemics or similar public health crises.

If the market opportunities for any of our product candidates are smaller than we estimate, even assuming approval of a product candidate, our revenue may be adversely affected, and our business may suffer.

The precise incidence and prevalence for all the conditions we aim to address with our product candidates are unknown. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations or market research, and may prove to be incorrect. Further, new information may change the estimated incidence or prevalence of these diseases. The total addressable market across all of our product candidates will ultimately depend upon, among other things, the diagnosis criteria included in the final label for each of our product candidates approved for sale for these indications, the availability of alternative treatments and the safety, convenience, cost and efficacy of our product candidates relative to such alternative treatments, acceptance by the medical community and patient access, drug

pricing and reimbursement. The number of patients in the United States and other major markets and elsewhere may turn out to be lower than expected, patients may not be otherwise amenable to treatment with our products or new patients may become increasingly difficult to identify or gain access to, all of which would adversely affect our results of operations and our business.

Risks Related to Business Operation and Industry

Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or any guidance we may provide.

Our quarterly and annual operating results may fluctuate significantly, which makes it difficult for us to predict our future operating results. These fluctuations may occur due to a variety of factors, many of which are outside of our control, including, but not limited to:

- the timing, degree of success and cost of, and level of investment in, research, development, regulatory approval and commercialization activities relating to our product candidates, which may change from time to time;
- coverage and reimbursement policies with respect to our product candidates, if approved, and potential future drugs that compete with our products;
- the cost of manufacturing our current and future product candidates, which may vary depending on FDA, EMA or other comparable foreign regulatory authority guidelines and requirements, the quantity of production and the terms of our agreements with third-party manufacturers;
- expenditures that we may incur to acquire, develop or commercialize additional product candidates and technologies or other assets;
- the level of demand for any of our product candidates, if approved, which may fluctuate significantly and be difficult to predict;
- our ability to establish and maintain collaborations, licensing or other arrangements;
- our ability to adequately support future growth;
- future accounting pronouncements or changes in our accounting policies;
- the timing and success or failure of preclinical studies or clinical trials or regulatory approval for our product candidates or any competing product candidates, or any other change in the competitive landscape of our industry, including consolidation among our competitors or partners;
- any intellectual property infringement lawsuit or opposition, interference or cancellation proceeding in which we may become involved;
- additions and departures of key personnel;
- potential unforeseen business disruptions that increase our costs or expenses;
- effects of macro events, such as inflation, geopolitical conflicts, pandemics, natural disasters and supply chain issues, on our business and operations; and
- the changing and volatile global economic and political environment.

In addition, from time to time, we may enter into license or collaboration agreements or strategic partnerships with other companies that include development funding and significant upfront and milestone payments and/or royalties, which may become an important source of our revenue. These upfront and milestone payments may vary significantly from period to period and any such variance could cause a significant fluctuation in our operating results from one period to the next.

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be

meaningful. Investors should not rely on our past results as an indication of our future performance. This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any forecasts we may provide to the market, or if the forecasts we provide to the market are below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a price decline could occur even when we have met any previously publicly stated revenue or earnings guidance we may provide.

We expect to expand our organization, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

As of June 30, 2024, we had full-time employees. As we advance our research and development programs, we may need to further increase the number of our employees and the scope of our operations, particularly in the areas of clinical development, biology, chemistry, manufacturing, general and administrative matters related to being a public company, regulatory affairs and, if any of our product candidates receives marketing approval, sales, marketing and distribution. To manage our anticipated future growth, we must:

- expand our general and administrative functions;
- identify, recruit, integrate, maintain and motivate additional qualified personnel;
- manage our development efforts effectively, including the initiation and conduct of clinical trials for our product candidates;
- establish and build a marketing and commercial organization; and
- improve our operational, financial and management controls, reporting systems and procedures.

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

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize our product candidates and, accordingly, may not achieve our research, development and commercialization goals.

We are highly dependent on the services of our senior management team and if we are not able to retain these members of our management team and recruit and retain additional management, clinical and scientific personnel, our business will be harmed.

We are highly dependent on our senior management team. In particular, we are highly dependent on the development and management expertise of Jeffrey Finer, M.D., Ph.D., our Chief Executive Officer, as the other principal members of our management, scientific and clinical team. The employment agreements we have with these officers do not prevent such persons from terminating their employment with us at any time. The loss of the services of any of these persons could impede the achievement of our research, development and commercialization objectives. In addition, we will need to attract, retain and motivate highly qualified additional management, clinical and scientific personnel. If we are not able to retain our management and to attract, on terms acceptable to us, additional qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or grow.

We may not be able to attract or retain qualified personnel in the future due to the intense competition for qualified personnel among biotechnology, pharmaceutical and other businesses. Many of the other pharmaceutical companies that we compete against for qualified personnel and consultants have greater financial and other resources, different risk profiles and a longer operating history in the industry than we do. They also

may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates and consultants than what we have to offer. If we are unable to attract, retain and motivate high-quality personnel and consultants to accomplish our business objectives, the rate and success at which we can discover and develop product candidates and our business will be limited and we may experience constraints on our development objectives.

To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have provided stock options that vest over time. The value to employees of stock options that vest over time may be significantly affected by movements in our stock price that are beyond our control and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. For example, employment of our key employees is at-will, which means that any of our employees could leave our employment at any time, with or without notice. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

Our future performance will also depend, in part, on our ability to successfully integrate newly hired executive officers into our management team and our ability to develop an effective working relationship among senior management. Our failure to integrate these individuals and create effective working relationships among them and other members of management could result in inefficiencies in the development and commercialization of our product candidates, harming future marketing approvals, sales of our product candidates and our results of operations.

Our employees, independent contractors, principal investigators, CROs, consultants, vendors and collaboration partners 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, principal investigators, CROs, consultants, vendors and collaboration partners may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or unauthorized activities that violate: (i) FDA, the national competent authorities of individual EU Member States, or comparable foreign regulations, including those laws that require the reporting of true, complete and accurate information to the FDA, EMA, or other comparable foreign regulatory authorities; (ii) manufacturing standards; (iii) U.S. federal and state fraud and abuse and other healthcare laws and regulations, including foreign requirements; or (iv) laws that require the reporting of true and accurate financial information and data. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. These activities also include the improper use of information obtained in the course of clinical trials or falsification of clinical trial data, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third-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 be in compliance with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if none occurred. 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 civil, criminal and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid and other U.S. federal or non U.S. healthcare programs, imprisonment, contractual damages, reputational harm, diminished profits and future earnings, and

curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Changes in U.S. and international trade policies, particularly with respect to China, may adversely impact our business and operating results.

The U.S. government has recently made statements and taken certain actions that may lead to potential changes to U.S. and international trade policies, including imposing several rounds of tariffs and export control and sanctions restrictions affecting certain products manufactured in China. Both China and the United States have each imposed tariffs indicating the potential for further trade barriers, including the U.S. Commerce Department adding numerous Chinese entities to its Unverified List, which requires U.S. exporters to go through more procedures before exporting goods to such entities. It is unknown whether and to what extent new tariffs, export controls, or other new laws or regulations will be adopted, or the effect that any such actions would have on us or our industry. Most recently, legislation pending in Congress called the BIOSECURE Act would, among other things, prohibit U.S. federal government contracts, grants, and loans in connection with biotechnology equipment or services provided or produced by certain named Chinese "biotechnology companies of concern," which include WuXi AppTec and WuXi Biologics, or collectively WuXi. See the risk factor titled "Risks Related to Government Regulatory and Legal Requirements—We rely on third-party manufacturers and suppliers to supply components of our product candidates."

Any unfavorable government policies on international trade, such as export controls, economic, sanctions, capital controls or tariffs, may increase the cost of manufacturing our product candidates and platform materials, affect our ability to commercialize our product candidates if approved, the competitive position of our product candidates, and import or export of raw materials and finished product candidate used in our preclinical studies and clinical trials, particularly with respect to any product candidates and materials that we import from China, including pursuant to our service arrangements with WuXi. If any new tariffs, export controls, sanctions, legislation and/or regulations are implemented, or if existing trade agreements are renegotiated or, in particular, if either the U.S. or Chinese government takes retaliatory trade actions due to the recent trade tensions, such changes could have an adverse effect on our business, financial condition and results of operations.

Clinical trial and product liability lawsuits against us could divert our resources, could cause us to incur substantial liabilities and could limit commercialization of any product candidates we may develop.

We will face an inherent risk of clinical trial and product liability exposure related to the testing of any product candidates we may develop in clinical trials, and we will face an even greater risk if we commercially sell any products that we may develop. While we currently have not completed the evaluation of any product candidates in human clinical trials or that have been approved for commercial sale, the future use of product candidates by us in clinical trials, and the sale of any approved products in the future, may expose us to liability claims. These claims might be made by patients that use the product, healthcare providers, pharmaceutical companies or others selling such products. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates that we may develop;
- withdrawal of clinical trial participants and inability to continue clinical trials;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- substantial monetary awards to trial participants or patients;
- significant time and costs to defend any related litigation;
- a diversion of our management's time and our resources;

- exhaustion of any available insurance and our capital resources;
- initiation of investigations by regulators;
- the inability to commercialize any product candidates that we may develop;
- injury to our reputation and significant negative media attention; and
- a decline in price of our common stock.

We will need to increase our insurance coverage if we continue to commence clinical trials or if we commence commercialization of any product candidates. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise. If and when coverage is secured, our insurance policies may also have various exclusions and we may be subject to a product liability claim for which we have no coverage. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise. If a successful clinical trial or product liability claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover such claims and our business operations could be impaired.

If we or any contract manufacturers and suppliers we engage fail to comply with environmental, health, and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous foreign, federal, state and local environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources, including any available insurance. Under certain environmental laws, we could be held responsible for costs relating to any contamination at our current or past facilities and at third-party facilities.

We could incur significant costs and liabilities which may adversely affect our financial condition and operating results for failure to comply with such laws and regulations, including, among other things, civil or criminal fines and penalties, property damage and personal injury claims, costs associated with upgrades to our facilities or changes to our operating procedures, or injunctions limiting or altering our operations.

Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our research and product development efforts. In addition, we cannot entirely eliminate the risk of accidental injury or contamination from these materials or wastes. Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials. In the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations, which are becoming increasingly more stringent, may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Our future ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

Since our inception, we have incurred losses and we may never achieve profitability. To the extent that we continue to generate taxable losses, under current law, our unused U.S. federal net operating losses (NOLs) may be carried forward to offset a portion of future taxable income, if any. Additionally, we continue to generate business tax credits, including research and development tax credits, which generally may be carried forward to offset a portion of future taxable income, if any, subject to expiration of such credit carryforwards. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (Code), if a corporation undergoes an "ownership change," generally defined as one or more stockholders or groups of stockholders who own at least 5% of the corporation's equity increasing their equity ownership in the aggregate by more than 50 percentage points (by value) over a three-year period, the corporation's ability to use its pre-change NOLs and other pre-change tax attributes (such as research and development tax credits) to offset its post-change income or taxes may be limited. Similar rules may apply under state tax laws. Our prior equity offerings and other changes in our stock ownership may have resulted in such ownership changes in the past. In addition, we may experience ownership changes in the future as a result of this offering or subsequent shifts in our stock ownership, some of which are outside of our control. As a result, if we earn net taxable income, our ability to use our pre-change NOLs or other pre-change tax attributes to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us and could require us to pay U.S. federal income taxes earlier than would be required if such limitations were not in effect. Additional limitations on our ability to utilize our NOLs to offset future taxable income may arise as a result of our corporate structure whereby NOLs generated by our subsidiary may not be available to offset taxable income earned by our subsidiary. There is a risk that due to changes under the tax law, regulatory changes or other unforeseen reasons, our existing NOLs or business tax credits could expire or otherwise be unavailable to offset future income tax liabilities. At the state level, there may also be periods during which the use of NOLs or business tax credits is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For example, under Senate Bill 167 enacted by California in June 2024, generally, there is a suspension of the NOL deduction for tax years beginning on or after January 1, 2024, and before January 1, 2027 for individual and corporate taxpayers with net business income or modified adjusted gross income of $1 million or more, and a limit of $5 million of business credits on the aggregate use of otherwise allowable business tax credits that any individual or corporate taxpayer could claim for tax years beginning on or after January 1, 2024, and before January 1, 2027. For these reasons, we may not be able to realize a tax benefit from the use of our NOLs or tax credits, even if we attain profitability.

We have and may in the future engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.

We have and in the future, we may consider strategic transactions, such as acquisitions of companies, asset purchases, and in-licensing or out-licensing of products, product candidates or technologies from time to time. Additional potential transactions that we may consider include a variety of different business arrangements, including spin-offs, strategic partnerships, joint ventures, restructurings, divestitures, business combinations and investments. Any such transaction may require us to incur non-recurring or other charges, may increase our near- and long-term expenditures and may pose significant integration challenges or disrupt our senior management or business, which could adversely affect our operations and financial results. For example, these transactions may entail numerous operational and financial risks, including:

- up-front, milestone and royalty payments, equity investments and financial support of new research and development candidates including increase of personnel, all of which may be substantial;
- exposure to unknown liabilities, including potential indemnification claims from a potential spin-off or out-license of certain of our intellectual property rights;
- disruption of our business and diversion of our management's time and attention to develop acquired products, product candidates or technologies;

- incurrence of substantial debt or dilutive issuances of equity securities to pay for acquisitions;
- higher than expected costs in risk-sharing collaborations;
- higher-than-expected acquisition and integration costs;
- lower-than-expected benefits, from out-licensing or selling our technology, intellectual property or any of our subsidiaries or, from in-licensing intellectual property or purchasing assets;
- write-downs of assets or goodwill or impairment charges;
- difficulty and cost in combining or separating the operations and personnel of any acquired or sold businesses with our existing operations and personnel;
- we may disagree with our strategic partners about decisions affecting the business, which could result in litigation or arbitration that increases our expenses, distracts our officers and directors and disrupts the day-to-day operations of the strategic venture, including by delaying important decisions until the dispute is resolved;
- our strategic partners may take actions that we oppose;
- our strategic partners might experience financial distress or become bankrupt;
- impairment of relationships with key suppliers or customers of any acquired or sold businesses due to changes in our senior management and ownership; and
- inability to retain key employees of any acquired businesses.

In addition, to the extent we enter into a strategic transaction that includes ongoing operations or shared ownership and management, our strategic partners may take actions that we oppose or we may disagree with our strategic partners about decisions affecting the business, which could result in litigation or arbitration, distract our officers and directors and otherwise disrupt the day-to-day operations of our business and the business of the strategic partner or entity. Furthermore, to the extent that our directors and officers serve on the boards of our strategic partners, such directors may be required to abstain from board decision-making in the event of a conflict of interest.

Accordingly, although we cannot be certain that we will undertake or successfully complete any transactions of the nature described above, any transactions that we do complete may be subject to the foregoing or other risks, and could harm our business, results of operations, financial condition and prospects.

We are conducting, and will continue to conduct, clinical trials for our current product candidates outside of the United States, and we may do so for our other product candidates. However, conducting trials outside of the United States exposes us to additional risks, which could materially harm our business.

We are conducting, and may in the future conduct, certain of our clinical trials at centers outside of the United States. The acceptance of study data from clinical trials conducted outside the United States or another jurisdiction by the FDA or another comparable foreign regulatory authority may be subject to certain conditions or may not be accepted at all. For example, in cases where data from foreign clinical trials 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 U.S. population and U.S. medical practice; (ii) the trials were performed by clinical investigators of recognized competence and pursuant to GCP regulations; 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 inspection to be necessary, the FDA is able to validate the data through an on-site inspection or other appropriate means. In addition, even where the foreign study data are not intended to serve as the sole basis for approval, the FDA will not accept the data as support for an application for marketing approval unless the study is well-designed and well-conducted in accordance with GCP requirements and the FDA is able to validate the data from the study through an onsite inspection if deemed necessary. Many foreign regulatory

authorities have similar approval requirements. In addition, such foreign trials would be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. If the FDA, the EMA, the U.K. Medicines and Healthcare products Regulatory Agency (MHRA), or other foreign regulatory authorities do not accept any data generated from other jurisdictions, we would likely be required to conduct additional clinical trials, which would be costly and time consuming, and delay aspects of our development plan, which could harm our business.

Conducting trials outside the United States also exposes us to additional risks, including risks associated with:

- additional foreign regulatory requirements;
- foreign exchange fluctuations;
- compliance with foreign manufacturing, customs, shipment and storage requirements;
- cultural differences in medical practice and clinical research;
- diminished protection of intellectual property in some countries; and
- interruptions or delays in our trials resulting from geopolitical events, such as war or terrorism.

If our information systems or data, or those of third parties with whom we work, are or were compromised, we could experience adverse consequences from such compromises, such as damage our reputation, significant financial and legal exposure, or other adverse effects to our business.

We rely on information technology systems that we or third parties with whom we work, operate to process, transmit and store electronic information, including sensitive information, in our day-to-day operations. For example, in connection with our product development efforts, we may collect and process a variety of personal data, proprietary information, trade secrets, and clinical trial information. As a result, we and the third parties with whom we work, face a variety of evolving threats that could cause security incidents.

Cyberattacks, malicious internet-based activity, online and offline fraud, and other similar activities could result in the theft or destruction of intellectual property, personal data, or other misappropriation of assets, or otherwise threaten to compromise our confidential or proprietary information and disrupt our operations. Such threats are increasing in their frequency, sophistication, and intensity, have become increasingly difficult to detect, and come from a variety of sources, including traditional computer “hackers,” threat actors, “hacktivists,” organized criminal threat actors, personnel (such as through theft or misuse), sophisticated nation states, and nation-state-supported actors. Some actors now engage and are expected to continue to engage in cyberattacks, including without limitation nation-state actors for geopolitical reasons and in conjunction with military conflicts and defense activities, wrongful conduct by hostile foreign governments and industrial espionage. During times of war and other major conflicts, we and the third parties upon which we work may be vulnerable to a heightened risk of these attacks, including retaliatory cyber-attacks, that could materially disrupt our systems and operations, supply chain, and ability to produce, sell and distribute our services.

We and the third parties with whom we work are subject to a variety of evolving threats, including but not limited to the deployment of harmful malware (including as a result of advanced persistent threat intrusions), ransomware, denial-of-service, credential stuffing, credential harvesting, social engineering fraud (including through deep fakes, which may be increasingly more difficult to identify as fake, and phishing attacks), malicious code (such as viruses and worms), personnel misconduct or error, ransomware attacks, supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss of data or other information technology assets, adware, attacks enhanced or facilitated by AI, telecommunications failures, earthquakes, fires, floods, and other similar threats.

In particular, severe ransomware attacks are becoming increasingly prevalent and can lead to significant interruptions in our operations, ability to provide our products or services, loss of sensitive data and income,

reputational harm, and diversion of funds. Extortion payments may alleviate the negative impact of a ransomware attack, but we may be unwilling or unable to make such payments due to, for example, applicable laws or regulations prohibiting such payments.

A successful cyberattack could cause serious negative consequences for us, including, without limitation, the disruption of operations, the misappropriation of confidential business information, including financial information, trade secrets, financial loss and the disclosure of corporate strategic plans. Although we devote resources to protect our information systems, there can be no assurance that our efforts will prevent information cybersecurity incidents or breaches that would result in business, legal, financial or reputational harm to us, or would have a material adverse effect on our results of operations and financial condition.

Remote work has become more common and has increased risks to our information technology systems and data, as more of our employees utilize network connections, computers, and devices outside our premises or network, including working at home, while in transit and in public locations. Additionally, future or past business transactions (such as acquisitions or integrations) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired or integrated entities' systems and technologies. Furthermore, we may discover security issues or other constraints not found during due diligence of such acquired or integrated entities, creating additional challenges to integrate said information systems into our information technology environment and security program.

While we have implemented security measures designed to protect against security incidents, there can be no assurance that these measures will be effective. We take steps designed to detect, mitigate, and remediate known vulnerabilities in our information systems (such as our hardware and/or software, including that of third parties with whom we work). We may not, however, detect and remediate all such vulnerabilities on a timely basis for various reasons including but not limited to the impact on the functional operations of affected information systems or the availability of a solution for the impacted technology. While remedial measures and/or patches designed to address identified vulnerabilities are being developed and/or implemented, these vulnerabilities could be exploited and result in a security incident.

Applicable data privacy and security obligations may require us to notify relevant stakeholders, including affected individuals, customers, regulators, and investors, of security incidents. Such disclosures are costly, and the disclosure or the failure to comply with such requirements could lead to adverse consequences. Additionally, laws in all 50 states require businesses to provide notice to customers whose personal data has been disclosed as a result of a data breach. These laws are not consistent, and compliance in the event of a widespread data breach is difficult and may be costly. We also may be contractually required to notify patients or other counterparties of a cybersecurity incident or breach. Although we may have contractual protections with our service providers, any actual or perceived cybersecurity incident or breach could harm our reputation and brand, expose us to potential liability or require us to expend significant resources on data security and in responding to any such actual or perceived breach. Any contractual protections we may have from our service providers may not be sufficient to adequately protect us from any such liabilities and losses, and we may be unable to enforce any such contractual protections. In addition to government regulation, privacy advocates and industry groups have and may in the future propose self-regulatory standards from time to time. These and other industry standards may legally or contractually apply to us, or we may elect to comply with such standards. Determining whether personal data has been handled in compliance with applicable privacy standards and our contractual obligations can be complex and may be subject to changing interpretation.

While we maintain insurance coverage, we cannot assure that such coverage will be adequate or otherwise protect us from or adequately mitigate liabilities or damages with respect to claims, costs, expenses, litigation, fines, penalties, business loss, data loss, regulatory actions or material adverse effects arising out of our data protection, privacy, and security practices, or that such coverage will continue to be available on acceptable terms or at all. The successful assertion of one or more large claims against us that exceeds our available insurance coverage, or results in changes to our insurance policies (including premium increases or the

imposition of large deductible or co-insurance requirements), could have an adverse effect on our business. In addition, we cannot be sure that our existing insurance coverage will continue to be available on acceptable terms or that our insurers will not deny coverage as to any future claim.

Threat actors and their techniques change frequently, are often sophisticated in nature, and may not be detected until after a cybersecurity incident has occurred. Any failure to prevent or mitigate cybersecurity incidents, breaches or other improper access to, use of, or disclosure of our clinical data or patients' personal data could result in significant liability under state (e.g., state breach notification laws), federal (e.g., HIPAA), and foreign (e.g., the GDPR) laws, and may cause a material adverse impact to our reputation, affect our ability to conduct new studies and potentially disrupt our business.

In addition, our reliance on the computer systems of various third parties with whom we work, including our CROs and other contractors, introduce new cybersecurity risks and vulnerabilities, including supply-chain attacks, and other threats to our business operations. We rely on our third-party partners to implement effective security measures and identify and correct for any such failures, deficiencies or breaches. However, our ability to monitor these third parties' information security practices is limited, and these third parties may not have adequate information security measures in place. While we may be entitled to damages if the third parties with whom we work fail to satisfy their privacy or security-related obligations to us, any award may be insufficient to cover our damages, or we may be unable to recover such award. In addition, supply-chain attacks have increased in frequency and severity, and we cannot guarantee that third parties' infrastructure in our supply chain or that of the third parties with whom we work have not been compromised.

If we or our third-party partners fail to maintain or protect our information technology systems and data integrity effectively or fail to anticipate, plan for or manage significant disruptions to our information technology systems, we or our third-party partners could have difficulty preventing, detecting and controlling such cyberattacks and any such attacks could result in disputes with physicians, patients and our partners, regulatory sanctions or penalties, increases in operating expenses, expenses or lost revenues or other adverse consequences, any of which could have a material adverse effect on our business, results of operations, financial condition, prospects and cash flows. Any failure by such third parties to prevent or mitigate cybersecurity incidents, breaches or other improper access to or disclosure of such information could have similarly adverse consequences for us.

In addition to experiencing a security incident, third parties may gather, collect, or infer sensitive data about us from public sources, data brokers, or other means that reveals competitively sensitive details about our organization and could be used to undermine our competitive advantage or market position. Additionally, sensitive data of the Company could be leaked, disclosed, or revealed as a result of or in connection with our employees', personnel's, or vendors' use of generative artificial intelligence technologies.

Any of the previously identified or similar threats could cause a security incident or other interruption that could result in unauthorized, unlawful, or accidental acquisition, modification, destruction, loss, alteration, encryption, disclosure of, or access to our sensitive data or our information technology systems, or those of the third parties with whom we work. A security incident or other interruption could disrupt our ability (and that of third parties with whom we work) to provide our services.

Risks Related to Government Regulatory and Legal Requirements

Disruptions at the FDA and other government agencies 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, approved or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA, EMA, and other comparable foreign regulatory authorities to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to

hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes. Average review times at the FDA 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 may also slow the time necessary for new drugs 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 shut down several times and certain regulatory agencies, such as the FDA, furloughed critical employees and ceased critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

If a prolonged government shutdown occurs, or if global health concerns prevent the FDA, EMA, or other comparable foreign regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA, EMA, or other comparable foreign regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

We may not be able to obtain orphan drug designation or exclusivity for our product candidates, and even if we do, that designation may not provide an expedited development or regulatory review or approval process and any orphan drug exclusivity we may receive for approved products may not prevent the FDA or the EMA from approving other competing products.

Under the Orphan Drug Act, the FDA may designate a product candidate as an orphan drug if it is intended to treat a rare disease or condition. A similar regulatory scheme governs the designation of orphan product candidates by the EMA in the EU. Generally, if a product with an orphan drug designation subsequently receives the first regulatory approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or the EMA (as applicable) from approving another marketing authorization application for another similar product candidate for the same orphan therapeutic indication for that time period. The applicable period is seven years in the United States and ten years in the EU (which can be extended to 12 years if the sponsor complies with an agreed-upon pediatric investigation plan). The exclusivity period in the EU can be reduced to six years if at the end of the fifth year it is determined that a product no longer meets the criteria for orphan designation, including if the product is sufficiently profitable so that market exclusivity is no longer justified.

In order for the FDA to grant orphan drug exclusivity to one of our product candidates, the agency must find that the product candidate is indicated for the treatment of a condition or disease that affects fewer than 200,000 individuals in the United States or that affects 200,000 or more individuals in the United States and for which there is no reasonable expectation that the cost of developing and making the product candidate available for the disease or condition will be recovered from sales of the product in the United States. The FDA may conclude that the condition or disease for which we seek orphan drug exclusivity does not meet this standard. In the EU, a medicinal product may be designated as orphan if (1) it is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition; (2) either (a) such condition affects no more than five in 10,000 persons in the EU when the application is made, or (b) it is unlikely that the product, without the benefits derived from orphan status, would generate sufficient return in the EU to justify the necessary investment in its development; and (3) there exists no satisfactory method of diagnosis, prevention or treatment of such condition authorized for marketing in the EU, or if such a method exists, the product will be of significant benefit to those affected by the condition. Even if we obtain orphan drug exclusivity for a product candidate, that exclusivity may not effectively protect the product candidate from competition because different product candidates can be approved for the same condition. In addition, even after an orphan drug is approved, the FDA or the EMA can subsequently approve the same product candidate for the same condition if the FDA or EMA (as applicable) concludes that the later product candidate is clinically superior in that it is shown to be safer, more effective or

makes a major contribution to patient care compared with the product that has orphan exclusivity. Orphan drug exclusivity may also be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of the patients with the rare disease or condition.

While we may in the future seek designations for our product candidates with the FDA, EMA and other comparable foreign regulatory authorities that are intended to confer benefits such as a faster development process, an accelerated regulatory pathway or regulatory exclusivity, there can be no assurance that we will successfully obtain such designations. In addition, even if one or more of our product candidates are granted such designations, we may not be able to realize the intended benefits of such designations.

The FDA, EMA, and other comparable foreign regulatory authorities offer certain designations for product candidates that are designed to encourage the research and development of product candidates that are intended to address conditions with significant unmet medical need. These designations may confer benefits such as additional interaction with regulatory authorities, a potentially accelerated regulatory pathway and priority review. However, there can be no assurance that we will successfully obtain such designations for our product candidates. In addition, while such designations could expedite the development or approval process, they generally do not change the standards for approval. Even if we obtain such designations for our product candidates, there can be no assurance that we will realize their intended benefits.

For example, we may seek a Fast Track Designation for one or more of our product candidates. If a product is intended for the treatment of a serious or life-threatening condition and preclinical or clinical data demonstrate the potential to address an unmet medical need for this condition, the product sponsor may apply for Fast Track Designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive Fast Track Designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may rescind the Fast Track Designation if it believes that the designation is no longer supported by data from our clinical development activities.

In the EU, we may seek to participate in the PRIority Medicines (PRIME) scheme for our potential product candidates. The PRIME scheme is intended to encourage development of product candidates in areas of unmet medical need and provides accelerated assessment of product candidates representing substantial innovation, where the marketing authorization application will be made through the centralized procedure in the EU. Eligible products must target conditions for which there is an unmet medical need (i.e. no treatment option exists in the European Union or, they can offer a major therapeutic advantage over existing treatments). Many benefits accrue to sponsors of product candidates with access to the PRIME scheme, 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 marketing authorization application assessment once a dossier has been submitted. There is no guarantee, however, that our potential product candidate would be deemed eligible for the PRIME scheme and even if we do participate in the PRIME scheme, where during the course of development a product no longer meets the eligibility criteria, support under the PRIME scheme may be withdrawn. PRIME eligibility does not change the standards for product approval, and there is no assurance that any such designation or eligibility will result in expedited review or approval.

We may seek Breakthrough Therapy Designation for one or more of our product candidates. A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For drugs that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Drugs designated as breakthrough therapies by the FDA are also eligible for accelerated approval and priority review.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe a product candidate we develop meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of Breakthrough Therapy Designation for a product candidate may not result in a faster development process, review or approval compared to drugs considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if any product candidate we develop qualifies as a breakthrough therapy, the FDA may later decide that the drug no longer meets the conditions for qualification and rescind the designation.

Even in the absence of obtaining Fast Track and/or Breakthrough Therapy Designations, a sponsor can seek priority review at the time of submitting a marketing application. The FDA may designate a product for priority review if it is a product that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness when compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting adverse reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes, or evidence of safety and effectiveness in a new subpopulation. A priority review designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for taking action on a marketing application from ten months to six months. Priority review designation may be rescinded if a product no longer meets the qualifying criteria.

Where appropriate, we may secure approval from the FDA, EMA, or other comparable foreign regulatory authorities through the use of expedited approval pathways, such as accelerated approval. If we are unable to obtain such approvals, we may be required to conduct additional preclinical studies or clinical trials beyond those that we contemplate, which could increase the expense of obtaining, and delay the receipt of, necessary marketing approvals. Even if we receive accelerated approval from the FDA, EMA, or other comparable foreign regulatory authorities, if our confirmatory trials do not verify clinical benefit, or if we do not comply with rigorous post-marketing requirements, the FDA, EMA, or other comparable foreign regulatory authorities may seek to withdraw the accelerated approval.

Where possible, we plan to pursue accelerated development strategies in areas of high unmet need. We may seek an accelerated approval pathway for our one or more of our product candidates from the FDA, EMA, or other comparable foreign regulatory authorities. Under the accelerated approval provisions in the Federal Food, Drug, and Cosmetic Act, and the FDA's implementing regulations, the FDA may grant accelerated approval to a product candidate designed to treat a serious or life-threatening condition that provides meaningful therapeutic benefit over available therapies upon a determination that the product candidate has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. The FDA considers a clinical benefit to be a positive therapeutic effect that is clinically meaningful in the context of a given disease, such as irreversible morbidity or mortality. For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. An intermediate clinical endpoint is a clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit. The accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage but is a clinically important improvement from a patient and public health perspective. If granted, accelerated approval is usually contingent on the sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the drug's clinical benefit. Under FDORA, the FDA is permitted to require, as appropriate, that a post-approval confirmatory study or studies be underway prior to approval or within a specified time period after the date of approval for a product granted accelerated approval. FDORA also gives the FDA increased authority to withdraw approval of a drug or biologic granted accelerated approval on an expedited basis if the sponsor fails to conduct such studies in a timely manner, send status updates on such studies to the FDA every 180 days to be publicly posted by the agency, or if such post-approval studies fail to verify the drug's predicted clinical benefit. The FDA is empowered to take action, such as issuing fines, against companies that fail to conduct with due diligence any post-approval confirmatory study or submit timely reports to the agency on their progress.

Prior to seeking accelerated approval, we would seek feedback from the FDA, EMA, or other comparable foreign regulatory authorities and would otherwise evaluate our ability to seek and receive such accelerated approval. There can be no assurance that after our evaluation of the feedback and other factors we will decide to pursue or submit an NDA or BLA for accelerated approval or any other form of expedited development, review or approval. Similarly, there can be no assurance that after subsequent feedback from the FDA, EMA, or other comparable foreign regulatory authorities, we will continue to pursue or apply for accelerated approval or any other form of expedited development, review or approval, even if we initially decide to do so. Furthermore, if we decide to submit an application for accelerated approval, there can be no assurance that such application will be accepted or that any approval will be granted on a timely basis, or at all. The FDA, EMA, or other comparable foreign regulatory authorities could also require us to conduct further studies prior to considering our application or granting approval of any type, including, for example, if other products are approved via the accelerated pathway and subsequently converted by FDA to full approval. A failure to obtain accelerated approval or any other form of expedited development, review or approval for our product candidate would result in a longer time period to commercialization of such product candidate, could increase the cost of development of such product candidate and could harm our competitive position in the marketplace.

We are subject to stringent and evolving U.S. and foreign laws, rules, regulations, policies, industry standards, contractual requirements, and other obligations related to data protection, privacy, and security. Our actual or perceived failure to comply with such obligations could adversely affect our business.

We are subject to various data protection, privacy, and security laws, rules, regulations, policies, industry standards, contractual requirements, and other obligations that apply to our collection, transmission, storage, use, disclosure, transfer, maintenance and other processing of sensitive information, including personal data. The legislative and regulatory landscape for data protection, privacy, and security continues to evolve across jurisdictions worldwide. For example, in the United States, federal, state, and local governments have enacted numerous data protection, privacy, and security laws, including data breach notification laws, personal data privacy laws, consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), and other similar laws (e.g., wiretapping laws).

In particular, regulations promulgated pursuant to the Health Insurance Portability and Accountability Act of 1996 (HIPAA), as amended by the Health Information Technology for Economic and Clinical Health Act (HITECH), and implementing regulations, establish stringent privacy and security standards that limit the use and disclosure of individually identifiable health information, or protected health information, and require the implementation of administrative, physical and technological safeguards to protect the privacy of protected health information and ensure the confidentiality, integrity and availability of electronic protected health information.

Data protection, privacy, and security obligations remain an evolving landscape at both the domestic and foreign level, with new laws, rules and regulations coming into effect, posing continued legal and compliance challenges. For example, in the past few years, numerous U.S. states—including California, Virginia, Colorado, Connecticut, and Utah—have enacted comprehensive privacy laws that impose certain obligations on covered businesses, including providing specific disclosures in privacy notices and affording residents with certain rights concerning their personal data. As applicable, such rights may include the right to access, correct, or delete certain personal data, and to opt-out of certain data processing activities, such as targeted advertising, profiling, and automated decision-making. The exercise of these rights may impact our business and ability to conduct our operations. Certain states also impose stricter requirements for processing certain personal data, including sensitive information, such as conducting data privacy impact assessments. These state laws allow for statutory fines for noncompliance. For example, in California, the California Consumer Privacy Act of 2018, as amended by the California Privacy Rights Act of 2020 (CPRA) (collectively, CCPA), provides for fines of up to $7,500 per intentional violation and allows privacy litigants affected by certain data breaches to recover significant statutory damages. The CCPA and other comprehensive U.S. state privacy laws exempt some data processed in the context of clinical trials, but these developments may further complicate compliance efforts, and increase legal risk and compliance costs for us, the third parties with whom we work.

Similar laws are being proposed in numerous other states and at the federal level. Proposed legislation, if enacted, may add additional complexity, variation in requirements, processing restrictions, potential legal risk, require additional investment of resources, impact business strategies, and could result in increased compliance costs and/or changes in business practices and policies.

There are also states that specifically regulate consumer health information. For example, Washington has enacted a consumer health privacy law, the My Health My Data Act (MHMD), that regulates the collection and sharing of consumer health information. MHMD places restrictions on processing consumer health data (including imposing stringent requirements for consents), provides consumers certain rights with respect to their health data, and creates a private right of action to allow individuals to sue for violations of the law, which further increases the relevant compliance risk. Connecticut and Nevada have also passed similar laws regulating consumer health data.

Outside the United States, an increasing number of laws, regulations, and industry standards govern data protection, privacy, and security. For example, if we conduct clinical trials in the European Economic Area (EEA) and/or the United Kingdom (U.K.), we may become subject to additional privacy laws in those jurisdictions, such as the EU General Data Protection Regulation (EU GDPR) and the EU GDPR as incorporated into U.K. domestic law post-Brexit (U.K. GDPR and, together with the EU GDPR, GDPR), both of which impose strict requirements for processing personal data.

For example, under the GDPR, data protection authorities may impose large penalties for violations of the GDPR, including potential fines of up to €20 million (£17.5 million GBP) or 4% of annual global revenues, whichever is greater. The GDPR also 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. Non-compliance could also result in the imposition of orders to stop data processing activities, which could have a material adverse effect on our business, financial position, and results of operations.

In addition, we may be unable to transfer personal data from the EEA, U.K., and other jurisdictions to the U.S. or other countries due to data localization requirements or limitations on cross-border data flows. Although there are various mechanisms that may be used in some cases to lawfully transfer personal data to the U.S. or other countries, these mechanisms are subject to legal challenges and may not always be available to us. For example, the GDPR requires certain adequate safeguards to enable the transfer of personal data outside of the EEA or the U.K., in particular to the U.S., such as the EU standard contractual clauses, U.K. International Data Transfer Addendum/Agreement, and the EU-U.S. Data Privacy Framework (Framework) and the UK extension thereto (which allows for transfers to relevant U.S.-based organizations who self-certify compliance and participate in the Framework). However, these mechanisms are subject to legal challenges, and there is no assurance that we can satisfy or rely on these measures to lawfully transfer personal data to the U.S. If there is no lawful manner for us to transfer personal data from the EEA, the U.K. or other jurisdictions to the U.S., or if the requirements for a legally-compliant transfer are too onerous, we could face significant adverse consequences, including the interruption or degradation of our operations, the need to relocate part of or all of our business or data processing activities to other jurisdictions (such as Europe) at significant expense, increased exposure to regulatory actions, substantial fines and penalties, the inability to transfer data and work with partners, vendors and other third parties, and injunctions against our processing or transferring of personal data necessary to operate our business.

Furthermore, if we fail, or are perceived to have failed, to comply with applicable data protection, privacy, and security laws, including applicable HIPAA privacy and security standards, we could face significant administrative, civil and criminal penalties. For example, HHS has the discretion to impose significant penalties, and such enforcement activity can result in financial liability and reputational harm, and responses to such enforcement activity can consume significant internal resources. In addition, state attorneys general are authorized to bring civil actions seeking either injunctions or damages in response to violations that threaten the

data protection, privacy, or security of the personal data of state residents. We cannot be sure how these laws, rules and regulations will be interpreted, enforced, or applied to our operations. In addition to the risks associated with enforcement activities and potential contractual liabilities, our ongoing efforts to comply with evolving laws, rules and regulations at the international, federal and state level may be costly and require ongoing modifications to our policies, procedures and systems.

Additionally, we rely on certain third-party vendors to process certain confidential, sensitive, or personal data on our behalf. Failure by us or our third-party vendors to comply with any of these laws, rules, regulations, contractual requirements, industry standards, or other obligations could result in notification obligations, enforcement actions, regulatory investigations or inquiries, significant fines, imprisonment of company officials and public censure, litigation and claims for damages by affected individuals, customers or business partners, damage to our reputation and loss of goodwill, any of which could have a material adverse effect on our business, financial condition, results of operations or prospects.

Our employees and personnel use generative artificial intelligence technologies to perform their work, and the disclosure and use of personal data in generative artificial intelligence technologies is subject to various privacy laws and other privacy obligations. Governments have passed and are likely to pass additional laws regulating generative artificial intelligence. Our use of this technology could result in additional compliance costs, regulatory investigations and actions, and lawsuits. If we are unable to use generative artificial intelligence, it could make our business less efficient and result in competitive disadvantages.

We also make public statements about our use, collection, disclosure, and other processing of personal data through our privacy policies and information provided on our website. Although we endeavor to comply with our public statements and documentation, we may at times fail to do so or be alleged to have failed to do so. The publication of our privacy policies and other statements that provide promises and assurances about data protection, privacy, and security can subject us to potential government or legal action if they are found to be deceptive, unfair or misrepresentative of our actual practices.

In addition to data protection, privacy, and security laws, we are contractually subject to industry standards adopted by industry groups and may become subject to such obligations in the future. We are also bound by other contractual obligations related to data protection, privacy, and security, and our efforts to comply with such obligations may not be successful.

Obligations related to data protection, privacy, and security (and consumers' data privacy expectations) are quickly changing, becoming increasingly stringent, and creating uncertainty. Additionally, these obligations may be subject to differing applications and interpretations, which may be inconsistent or conflict among jurisdictions. Preparing for and complying with these obligations requires us to devote significant resources and may necessitate changes to our services, information technologies, systems, and practices and to those of any third parties that process personal data on our behalf.

All of these compliance and operational requirements impose significant costs, such as costs related to organizational changes, implementing additional protection technologies, training employees and engaging consultants and legal advisors, which are likely to increase over time. Our efforts to comply with the evolving data protection, privacy, and security laws, rules, regulations, and other obligations may be unsuccessful. It is possible that these various obligations may be interpreted and applied in a manner that is inconsistent with our practices and our efforts to comply with the evolving data protection, privacy, and security obligations may be unsuccessful. We may need to devote significant resources to understanding and complying with this changing landscape. In addition, such requirements may require us to modify our data processing practices and policies, utilize management's time and/or divert resources from other initiatives and projects. Any actual or perceived failure by us or our third-party partners to comply with such laws, rules, regulations, and other obligations regarding data protection, privacy, and security could result in significant government-imposed fines or orders requiring that we change our practices, claims for damages or other liabilities, regulatory investigations and

enforcement action, litigation and significant costs for remediation, any of which could adversely affect our business. Even if we are not determined to have violated these laws, rules or regulations, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity. Further, any of the foregoing could have a material adverse effect on our business, financial condition, results of operations or prospects.

Healthcare legislative reform measures may have a negative impact on our business and results of operations.

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of product candidates, restrict or regulate post-approval activities, and affect our ability to profitably sell any product candidates for which we obtain marketing approval. For more information, see the section titled "Business–Government Regulation–Current and Future U.S. Healthcare Reform."

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 and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives. In 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the ACA) was passed, which substantially changed the way healthcare is financed by both the government and private insurers, and significantly impacts the U.S. pharmaceutical industry.

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

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

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical and biologic products. In addition, 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 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, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs.

In August 2022, the Inflation Reduction Act of 2022 (IRA) was signed into law. The IRA includes several provisions that may impact our business, depending on how various aspects of the IRA are implemented. Provisions that may impact our business include a $2,000 out-of-pocket cap for Medicare Part D beneficiaries, the imposition of new manufacturer financial liability on most drugs in Medicare Part D, permitting the U.S. government to negotiate Medicare Part B and Part D pricing for certain high-cost drugs and biologics without generic or biosimilar competition, requiring companies to pay rebates to Medicare for 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.

We cannot be sure whether additional legislative changes will be enacted, or whether FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

We cannot predict what healthcare reform initiatives may be adopted in the future. We expect that these and other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and additional downward pressure on the price that we receive for any approved drug. Any reduction in reimbursement from Medicare or other government 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 drugs.

Our relationships with customers, physicians, and third-party payors may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, other healthcare laws and regulations and health data privacy and security laws and regulations, contractual obligations and self-regulatory schemes. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

Healthcare providers and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, principal investigators, consultants, customers and third-party payors may subject us to various federal and state fraud and abuse laws and other healthcare laws, including, without limitation, the federal Anti-Kickback Statute, the federal civil and criminal false claims laws and the law commonly referred to as the Physician Payments Sunshine Act and regulations. These laws will impact, among other things, our clinical research, as well as our proposed sales and marketing programs. In addition, we may be subject to health information privacy and security laws by the federal government, the states and other jurisdictions in which we may conduct our business. For more information, see the section titled "Business–Government Regulation–Other Healthcare Laws."

Because of the breadth of these laws and the limited statutory exceptions and regulatory safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. The shifting compliance environment and the need to build and maintain robust and expandable systems to comply with multiple jurisdictions with different compliance and/or reporting requirements increases the possibility that a healthcare company may run afoul of one or more of the requirements.

If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws and the curtailment or restructuring of our operations.

Legislation or other changes in U.S. tax law may have a material adverse effect on our business, cash flow, financial condition, or results of operations.

The rules dealing with U.S. federal, state, and local income taxation are constantly under review by persons involved in the legislative process and by the Internal Revenue Service and the U.S. Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect us or holders of our common stock. In recent years, many changes have been made to applicable tax laws and changes are likely to continue to occur in the future. For example, under Section 174 of the Code, in taxable years beginning after December 31, 2021, expenses that are incurred for research and development in the United States will be capitalized and amortized, which may have an adverse effect on our cash flow. Future changes in tax laws could have a material adverse effect on our business, cash flow, financial condition or results of operations.

It cannot be predicted whether, when, in what form, or with what effective dates, new tax laws may be enacted, or regulations and rulings may be enacted, promulgated or issued under existing or new tax laws, which could result in an increase in our or our stockholders' tax liability or require changes in the manner in which we operate in order to minimize or mitigate any adverse effects of changes in tax law or in the interpretation thereof. We urge investors to consult with their legal and tax advisers regarding the implications of potential changes in tax laws on an investment in our common stock.

We are subject to U.S. and certain foreign export and import controls, sanctions, embargoes, anti-corruption laws, and anti-money laundering laws and regulations. Compliance with these legal standards could hinder our ability to compete in certain markets. We can face criminal liability and other serious consequences for violations, which can harm our business.

Our operations are subject to U.S. and foreign anti-corruption, anti-money laundering, export control, sanctions and other trade laws and regulations. Anti-corruption laws generally prohibit us and our employees, officers, CROs, consultants, contractors and other partners and agents from authorizing, promising, offering, providing, soliciting, or receiving, directly or indirectly, corrupt or improper payments or anything else of value to or from recipients in the public or private sector. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities and other organizations. We also expect our non-U.S. activities to increase over time. We expect to rely on third parties for research, preclinical studies and clinical trials and/or to obtain necessary permits, licenses, patent registrations and other marketing approvals. We can be held liable for the corrupt or other illegal activities of our personnel, agents, or partners, even if we do not explicitly authorize or have prior knowledge of such activities.

We are also subject to U.S. and foreign export controls, trade sanctions, and import laws and regulations. Such laws may prevent or prohibit the export or provision of certain products and services to countries, governments, and persons targeted by sanctions. Violations of these above laws can result in substantial criminal fines and civil penalties, imprisonment, the loss of trade privileges, debarment, breach of contract and fraud litigation, reputational harm and other consequences.

Risks Related to Third Party Relationships

We may depend on collaborations with third parties for the discovery, development and commercialization of our product candidates. If any of these collaborations are not successful, we may not be able to capitalize on the market potential of those product candidates.

We may in the future seek third-party collaborators for research, development and commercialization of our product candidates. Pharmaceutical companies are our prior and likely future collaborators for any marketing, distribution, development, licensing or broader collaboration arrangements. If we fail to enter into future collaborations on commercially reasonable terms, or at all, or such collaborations are not successful, we may not be able to execute our strategy to develop certain targets, product candidates or disease areas that we believe could benefit from the resources of either larger pharmaceutical companies or those specialized in a particular area of relevance.

With respect to any future collaboration agreements, we expect to have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of our current or future product candidates. Moreover, our ability to generate revenues from these arrangements will depend on our collaborators' abilities to successfully perform the functions assigned to them in these arrangements.

Collaborations involving our current or future product candidates may pose the following risks to us:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not pursue development and commercialization of our product candidates or may elect not to continue or renew development or commercialization programs based on preclinical studies or clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors such as an acquisition that diverts resources or creates competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials 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 current or future 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;
- collaborators with marketing and distribution rights to one or more products may not commit sufficient resources to the marketing and distribution of such product or products;
- collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to litigation or potential liability;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- disputes may arise between the collaborators and us that result in the delay or termination of the research, development or commercialization of our current or future product candidates or that result in costly litigation or arbitration that diverts management attention and resources; and
- 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.

As a result of the foregoing, any future collaboration agreements may not lead to development or commercialization of our product candidates in the most efficient manner or at all. If a future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our current or future product development or commercialization program could be delayed, diminished or terminated. Any failure to successfully develop or commercialize our product candidates pursuant to any future collaboration agreements could have a material and adverse effect on our business, financial condition, results of operations and prospects.

Moreover, to the extent that any of our future collaborators were to terminate a collaboration agreement, we may be forced to independently develop these product candidates, including funding preclinical studies or clinical trials, assuming marketing and distribution costs and defending intellectual property rights, or, in certain instances, abandon product candidates altogether, any of which could result in a change to our business plan and have a material adverse effect on our business, financial condition, results of operations and prospects.

We rely on third-party manufacturers, CROs, CMOs, and suppliers to supply, develop and test components of our product candidates. The loss of our third-party manufacturers, CROs, CMOs, or suppliers, their failure to comply with applicable regulatory requirements or to supply sufficient quantities at acceptable quality levels or prices, or at all, or changes in methods of product candidate manufacturing, development or formulation would materially and adversely affect our business.

We do not own or operate facilities for drug manufacturing, storage, distribution or quality testing. We currently rely, and may continue to rely, on third-party contract manufacturers, including in China, to manufacture and test bulk drug substances, drug products, raw materials, samples, components, or other materials and reports. Reliance on third-party manufacturers may expose us to different risks than if we were to manufacture product candidates ourselves. There can be no assurance that our preclinical and clinical development product supplies will not be limited, interrupted, terminated or of satisfactory quality or continue to be available at acceptable prices. In addition, any replacement of our manufacturer could require significant effort and expertise because there may be a limited number of qualified replacements.

The manufacturing process for a product candidate is subject to FDA, EMA and foreign regulatory authority review. In some cases, we, and our suppliers and manufacturers, some of which may be our sole source of supply, must meet applicable manufacturing requirements and undergo rigorous facility and process validation tests required by regulatory authorities in order to comply with regulatory standards, such as cGMPs. Securing marketing approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the FDA, EMA, and other comparable foreign regulatory authorities. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA, EMA, and other comparable foreign regulatory authorities, we may not be able to rely on their manufacturing facilities for the manufacture of elements of our product candidates. Moreover, we do not control the manufacturing process at our contract manufacturers and are completely dependent on them for compliance with current regulatory requirements. In the event that any of our manufacturers fails to comply with such requirements or to perform its obligations in relation to quality, timing or otherwise, or if our supply of components or other materials becomes limited or interrupted for other reasons, we may be forced to enter into an agreement with another third party, which we may not be able to do on reasonable terms, if at all. In some cases, the technical skills or technology required to manufacture our product candidates may be unique or proprietary to the original manufacturer and we may have difficulty transferring such to another third party.

These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturer in order to enable us, or to have another third party, manufacture our product candidates. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable regulations and guidelines; and we may be required to repeat some of the development program. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop product candidates in a timely manner or within budget.

We expect to continue to rely on third-party manufacturers if we receive regulatory approval for any product candidate. To the extent that we have existing, or enter into future, manufacturing arrangements with third parties, we will depend on these third parties to perform their obligations in a timely manner consistent with contractual and regulatory requirements, including those related to quality control and assurance. Any manufacturing facilities used to produce our products will be subject to periodic review and inspection by the FDA and foreign regulatory authorities, including for continued compliance with cGMP requirements, quality control, quality assurance and corresponding maintenance of records and documents. If we are unable to obtain or maintain third-party manufacturing for product candidates, or to do so on commercially reasonable terms, we may not be able to develop and commercialize our product candidates successfully. Our or a third party's failure to execute on our manufacturing requirements, comply with cGMPs or maintain a compliance status acceptable to the FDA or foreign regulatory authorities could adversely affect our business in a number of ways, including:

- delay in the progress on certain research programs;

- an inability to initiate or continue clinical trials of product candidates under development;
- delay in submitting regulatory applications, or receiving regulatory approvals, for product candidates;
- loss of the cooperation of existing or future collaborators;
- subjecting third-party manufacturing facilities to additional inspections by regulatory authorities;
- requirements to cease distribution or to recall batches of our product candidates; and
- in the event of approval to market and commercialize a product candidate, an inability to meet commercial demands for our therapeutics.

Additionally, our contract manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes or unstable political environments. If our contract manufacturers were to encounter any of these difficulties, our ability to provide our product candidates to patients in preclinical and clinical trials, or to provide product for treatment of patients once approved, would be jeopardized.

In addition, we currently rely on foreign CROs and CMOs, including WuXi AppTec (HongKong) Limited, for manufacturing and development activities and will likely continue to rely on foreign CROs and CMOs in the future. Foreign CMOs may be subject to U.S. legislation, sanctions, trade restrictions and other foreign regulatory requirements which could increase the cost or reduce the supply of material available to us, delay the procurement or supply of such material or have an adverse effect on our ability to secure significant commitments from governments to purchase our potential therapies.

For example, if enacted, legislation pending in Congress known as the BIOSECURE Act would prohibit U.S. federal agencies from entering into or renewing a contract with any company that uses biotechnology equipment or services produced or provided by a "biotechnology company of concern" in the performance of that contract. It would also prohibit loans or grant funding from U.S. federal agencies to entities that use any biotechnology equipment or services produced or provided by a "biotechnology company of concern" in the performance of the government grant or loan. The effects of this legislation, if enacted, is unknown; however, it could have the downstream effect of restricting the ability of pharmaceutical companies that enter into contracts with or receive funding from U.S. federal agencies from purchasing services or equipment from certain Chinese biotechnology companies, including those that are specifically named in the proposed BIOSECURE Act, as well as supply chain disruptions or delays. The current version of the BIOSECURE Act introduced in the House of Representatives names WuXi Biologics and WuXi AppTec as "biotechnology companies of concern" and includes a grandfathering provision allowing biotechnology equipment and services provided or produced by named "biotechnology companies of concern" under a contract or agreement entered into before the effective date until January 1, 2032. Depending on whether the BIOSECURE Act becomes law, what the final language of the BIOSECURE Act includes, and how the law is interpreted by U.S. federal agencies, we could be potentially restricted from pursuing U.S. federal government business or government reimbursement for our products in the future if we continue to use WuXi Biologics, WuXi AppTec or other suppliers or partners identified as "biotechnology companies of concern" beyond this grandfathering period. In addition to the BIOSECURE Act, any additional executive action, legislative action, or potential sanctions with China could materially impact our work with WuXi STA. U.S. executive agencies have the ability to designate entities and individuals on various governmental prohibited and restricted parties lists. Depending on the designation, potential consequences can range from a comprehensive prohibition on all transactions or dealings with designated parties, or a limited prohibition on certain types of activities, such as exports and financing activities, with designated parties.

For example, the pharmaceutical industry in China is strictly regulated by the Chinese government. Changes to Chinese regulations or government policies affecting pharmaceutical companies are unpredictable and may have a material adverse effect on our collaborators in China which could have an adverse effect on our business, financial condition, results of operations and prospects. Evolving changes in China's public health, economic, political, and social conditions and the uncertainty around China's relationship with other governments, such as

the U.S. and the United Kingdom, or U.K., could also negatively impact our ability to manufacture our product candidates for our planned clinical trials or have an adverse effect on our ability to secure government funding, which could adversely affect our financial condition and cause us to delay our clinical development programs. Any of the foregoing factors could have a material adverse effect on our business, results of operations, or financial condition.

Furthermore, as product candidates progress through preclinical and clinical trials to marketing 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 yield and manufacturing batch size, minimize costs and achieve consistent quality and results. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our product candidates to perform differently and affect the results of current or future clinical trials conducted with the altered materials. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and jeopardize our ability to commercialize our product candidates, if approved, and generate revenue.

We may in the future enter into collaboration agreements and strategic alliances to maximize the potential of our structure-based drug discovery platform and product candidates, and we may not realize the anticipated benefits of such collaborations or alliances. We expect to form collaborations in the future with respect to our product candidates, but may be unable to do so or to realize the potential benefits of such transactions, which may cause us to alter or delay our development and commercialization plans.

Part of our business strategy is to explore additional collaborations with third parties to further utilize our platform capabilities on additional novel GPCR targets and to leverage partners additional disease biology understanding, development and commercial expertise, regional insights or other complementary capabilities to existing or future Septerna programs. We may therefore form or seek further strategic alliances, create joint ventures or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to our structure-based drug discovery platform or our current or future product candidates that we may develop. These transactions can entail numerous operational and financial risks, including exposure to unknown liabilities, disruption of our business and diversion of our management's time and attention in order to manage a collaboration or develop acquired products, product candidates or technologies, incurrence of substantial debt or dilutive issuances of equity securities to pay transaction consideration or costs, higher than expected collaboration, acquisition or integration costs, write-downs of assets or goodwill or impairment charges, increased amortization expenses, difficulty and cost in facilitating the collaboration or combining the operations and personnel of any acquired business, impairment of relationships with key suppliers, manufacturers or customers of any acquired business due to changes in management and ownership and the inability to retain key employees of any acquired business. As a result, if we enter into acquisition or license agreements or strategic partnerships, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or other anticipated benefits that led us to enter into the arrangement.

Research and development collaborations are subject to numerous risks, which may include the following:

- collaborators have significant discretion in determining the efforts and resources that they will apply to a collaboration, and may not commit sufficient efforts and resources, or may misapply those efforts and resources causing delays or termination of the research;
- collaborators may not pursue development and commercialization of our structure-based drug discovery platform or collaboration product candidates or may elect not to continue or renew development or commercialization programs based on clinical trial results or changes in their strategic focus;
- collaborators may delay, provide insufficient resources to, or modify or stop clinical trials for collaboration product candidates;

- collaborators could develop or acquire products outside of the collaboration that compete directly or indirectly with our products or product candidates;
- collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a collaborator that cause 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 and personnel to pursue further development or commercialization of our structure-based drug discovery platform or the applicable product candidates; and
- collaborators may own or co-own intellectual property covering our products that results from our collaborating with them, and in such cases, we may not have the exclusive right to commercialize such intellectual property.

In addition, we could face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming, expensive, and complex. We may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our structure-based drug discovery platform or 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 our product candidates as having the requisite potential to demonstrate their desired safety and efficacy profile. If and when we collaborate with a third party for development and commercialization of a product candidate, we can expect to relinquish some or all of the control over the future success of that product candidate to the third party. Our ability to 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 our technologies, product candidates and market opportunities. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. We may also be restricted under any license agreements from entering into additional agreements on certain terms or at all with other potential collaborators.

As a result of these risks, we may not be able to realize the benefit of any future collaborations or licensing agreements we may enter into. In addition, we may face regulatory obstacles in completing such transactions. If we are unable to do so, we may have to curtail the development of such product candidate, reduce or delay one or more of our other development programs, delay the potential commercialization or reduce the scope of any planned sales or marketing activities for such product candidate, or increase our expenditures and undertake development, manufacturing or commercialization activities at our own expense. If we elect to increase our expenditures to fund development, manufacturing 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 structure-based drug discovery platform or product candidates or bring them to market and generate revenue.

Additionally, we may sometimes collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. If collaborations occur, these institutions 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 other parties, 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.

Our products require specific constituents to work effectively and efficiently, and rights to those constituents are, and in the future may be, held by others. We may also seek to in-license third-party technologies to enhance our Native Complex Platform™. We may be unable to in-license any rights from constituents, methods of use, processes or other third-party intellectual property rights from third parties that we identify. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, which could harm our business. 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 in order to establish or maintain our competitive position in the market. Any delays in entering into new collaborations or strategic partnership agreements related to our product candidates or our structure-based drug discovery platform could delay the development and commercialization of our product candidates in certain geographies or limit our ability to discover and develop new product candidates, which could harm our business prospects, financial condition, and results of operations.

The manufacturing of our product candidates is complex, and our third-party manufacturers may encounter difficulties in production. If we or any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our product candidates for clinical trials, our ability to obtain marketing approval, or our ability to provide supply of our products for patients, if approved, could be delayed or stopped.

The process of manufacturing pharmaceuticals is complex, time-consuming, highly regulated and subject to multiple risks. Our contract manufacturers must comply with legal requirements, cGMPs and guidelines for the manufacturing of pharmaceuticals used in clinical trials and, if approved, marketed products. Our contract manufacturers may have limited experience in the manufacturing of cGMP batches.

Manufacturing pharmaceuticals is highly susceptible to product loss due to contamination, equipment failure, improper installation or operation of equipment, vendor or operator error, inconsistency in yields, variability in product characteristics and difficulties in scaling the production process. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered at our third-party manufacturers' facilities, such facilities may need to be closed for an extended period of time to investigate and remedy the contamination, which could delay clinical trials and adversely harm our business.

In addition, there are risks associated with large scale manufacturing for clinical trials or commercial scale including, among others, cost overruns, potential problems with process scale-up, process reproducibility, stability issues, compliance with cGMPs, lot consistency and timely availability of raw materials. Even if we or our future collaborators obtain regulatory approval for any of our product candidates, there is no assurance that manufacturers will be able to manufacture the approved product to specifications acceptable to the FDA or other regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential launch of the product or to meet potential future demand. If manufacturers are unable to produce sufficient quantities for clinical trials or for commercialization, commercialization efforts would be impaired, which would have an adverse effect on our business, financial condition, results of operations and prospects.

Scaling up a pharmaceutical manufacturing process is a difficult and uncertain task, and our third-party manufacturers may not have the necessary capabilities to complete the implementation, manufacturing and development process. If we are unable to adequately validate or scale-up the manufacturing process at our current manufacturers' facilities, we will need to transfer to another manufacturer and complete the manufacturing validation process, which can be lengthy. If we are able to adequately validate and scale-up the manufacturing process for our product candidates with a contract manufacturer, we will still need to negotiate with such contract manufacturer an agreement for commercial supply and it is not certain we will be able to come to agreement on terms acceptable to us.

We cannot assure that any stability or other issues relating to the manufacture of any of our current or future product candidates will not occur in the future. If our third-party manufacturers were to encounter any of these difficulties, our ability to provide any product candidates to patients in planned clinical trials and products to patients, once approved, would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of planned clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely. Any adverse developments affecting clinical or commercial manufacturing of our product candidates or products may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our product candidates or products. We may also have to take inventory write-offs and incur other charges and expenses for product candidates or products that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives. Accordingly, failures or difficulties faced at any level of our supply chain could adversely affect our business and delay or impede the development and commercialization of any of our product candidates or products, if approved, and could have an adverse effect on our business, prospects, financial condition and results of operations.

As part of our process development efforts, we also may make changes to the manufacturing processes at various points during development, for various reasons, such as controlling costs, achieving scale, decreasing processing time, increasing manufacturing success rate or other reasons. Such changes carry the risk that they will not achieve their intended objectives, and any of these changes could cause our current or future product candidates to perform differently and affect the results of our current or future clinical trials. In some circumstances, changes in the manufacturing process may require us to perform *ex vivo* comparability studies and to collect additional data from patients prior to undertaking more advanced clinical trials. For instance, changes in our process during the course of clinical development may require us to show the comparability of the product used in earlier clinical phases or at earlier portions of a trial to the product used in later clinical phases or later portions of the trial.

We intend to rely on third parties to conduct, supervise and monitor our preclinical studies and clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.

We do not currently have the ability to independently conduct preclinical studies or clinical trials required to develop our product candidates. We intend to rely on CROs, clinical trial sites and other third parties to ensure the proper and timely conduct of our preclinical studies and clinical trials, and we expect to have limited influence over their actual performance. We intend to rely upon CROs and others for the execution of future nonclinical studies and to monitor, manage and report data for our clinical trials. We expect to control only certain aspects of our CROs' and others' activities. Nevertheless, we will be responsible for ensuring that each of our preclinical studies or clinical trials are conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on the CROs and others does not relieve us of our regulatory responsibilities.

We, our CROs and other third parties we might engage will be required to comply with good laboratory practices (GLPs) and GCPs, which are regulations and guidelines enforced by the FDA, EMA, and other comparable foreign regulatory authorities in the form of International Conference on Harmonization guidelines for any of our product candidates that are in preclinical and clinical development. The regulatory authorities enforce GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. Although we will rely on CROs and others to conduct GCP-compliant clinical trials, we remain responsible for ensuring that each of our GLP preclinical studies and clinical trials is conducted in accordance with its investigational plan and protocol and applicable laws and regulations, and our reliance on the CROs and others does not relieve us of our regulatory responsibilities. If we, our CROs and other third parties we engage fail to comply with GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA, EMA, or other comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. Accordingly, if our CROs or others fail to comply with these

regulations or fail to recruit a sufficient number of participants, we may be required to repeat clinical trials, which would delay the regulatory approval process.

While we will have agreements governing their activities, our CROs and other third parties we engage will not be our employees, and we will not control whether or not they devote sufficient time and resources to our future nonclinical and clinical programs. These CROs and others may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials, or other drug development activities which could harm our business. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by CROs and others, which may reduce our trade secret protection and allow our potential competitors to access and exploit our proprietary technology. In addition, certain of our agreements with CROs and other third parties currently or will provide for monetary and other limitations on their liability. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the preclinical or clinical data they obtain is compromised due to the failure to adhere to our protocols or regulatory requirements or for any other reasons, our preclinical or clinical programs may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize any product candidate that we develop. As a result, our financial results and the commercial prospects for any product candidate that we develop would be harmed, our costs could increase, and our ability to generate revenue could be delayed, decreased or eliminated.

If our relationship with these CROs terminates, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. Switching or adding additional CROs involves substantial 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 negatively impact our ability to meet our desired development timelines. Though we intend to carefully manage our relationships with our CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a negative impact on our business, financial condition and prospects.

In addition, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA. The FDA may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the trial. The FDA may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA and may ultimately lead to the denial of marketing approval of our current and future product candidates.

We currently depend and in the future may continue to depend on single- or limited-source suppliers for some of the components and materials used in the product candidates we may develop.

We currently depend and in the future may continue to depend on single- or limited-source suppliers for some of the components and materials used in any product candidates we may develop. We cannot ensure that these suppliers or service providers will remain in business, have sufficient capacity or supply to meet our needs or that they will not be purchased by one of our competitors or another company that is not interested in continuing to work with us. Our use of single-source suppliers of raw materials, components, key processes and finished goods could expose us to several risks, including disruptions in supply, price increases or late deliveries. There are, in general, relatively few alternative sources of supply for substitute components. These vendors may be unable or unwilling to meet our future demands for our clinical trials or commercial sale. Establishing additional or replacement suppliers for these components, materials and processes could take a substantial amount of time and it may be difficult to establish replacement suppliers who meet regulatory requirements. Any disruption in supply from any single-source supplier or service provider could lead to supply delays or interruptions which would damage our business, financial condition, results of operations and prospects.

If we have to switch to a replacement supplier, the manufacture and delivery of any product candidates we may develop could be interrupted for an extended period, which could adversely affect our business. Establishing additional or replacement suppliers, if required, may not be accomplished quickly or at all. If we are able to find a replacement supplier, the replacement supplier would need to be qualified and may require additional regulatory authority approval, which could result in further delay. While we seek to maintain adequate inventory of the single source components and materials used in our therapeutics, any interruption or delay in the supply of components or materials, or our inability to obtain components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand for our product candidates.

Risks Related to Intellectual Property

If we are unable to obtain, maintain, defend and enforce patent or other intellectual property protection for our current or any future product candidates, or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.

We anticipate that we will file additional patent applications both in the United States and in other jurisdictions, as appropriate. However, we cannot predict:

- if and when any patents will issue;
- the degree and scope of protection any issued patents will afford us against competitors, including whether third parties will find ways to invalidate or otherwise circumvent our patents;
- whether others will apply for or obtain patents claiming aspects similar to those covered by our patents and patent applications;
- whether we will need to initiate litigation or administrative proceedings to defend our patent rights, which may be costly whether we win or lose; or
- whether the patent applications that we own, or may in-license, will result in issued patents with claims that cover our current or future product candidates or uses thereof in the United States or in foreign jurisdictions.

We rely, and may in the future rely, upon a combination of patent, trade secret and trademark protection for our current and any future product candidates and proprietary technologies to prevent third parties from exploiting our achievements, thus eroding our competitive position in our market. These legal measures afford only limited protection, and competitors or others may gain access to or use our intellectual property and proprietary information. Our success depends in large part on our ability to obtain, maintain, expand, enforce, and defend the scope, ownership or control, validity and enforceability of our intellectual property protection in the United States and other countries with respect to our current and any future product candidates and other proprietary technologies we may develop. Our commercial success depends in large part on our ability to obtain and maintain patent protection in the United States and other jurisdictions with respect to our current and any future product candidates. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our current and future development programs and product candidates. The patent prosecution process is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner, including as a result of factors impacting our, our licensors' or governmental patent offices' operations.

It is possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our current or any future product candidates in the United States or in foreign jurisdictions. There is no assurance that all of the potentially relevant prior art relating to our patents and patent applications has been or will be found, which unknown prior art can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do issue and even if such patents cover our current or any future product candidates, third parties may challenge their scope, validity, or enforceability,

which may result in such patents being narrowed, invalidated, or held unenforceable. Any successful opposition to these patents or any other patents owned by or licensed to us could deprive us of rights necessary for the successful commercialization of any current or future product candidates that we may develop. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate under patent protection could be reduced.

If the patent applications we hold or have in-licensed with respect to our product candidates fail to issue, if their breadth or strength of protection is threatened, or if they fail to provide meaningful exclusivity for current or any future product candidates, it could dissuade companies from collaborating with us to develop product candidates, and threaten our ability to commercialize, future drug products. Any such outcome could have a negative effect on our business.

Composition of matter patents for pharmaceutical products provide intellectual property protection for those types of products, as such patents provide protection without regard to any method of use. We cannot be certain, however, that the claims in our pending patent applications covering the composition of matter of any of our current or future product candidates will be considered patentable by the U.S. Patent and Trademark Office (USPTO), or by patent offices in foreign jurisdictions, or that the claims in any of our patents that may issue will be considered valid and enforceable by courts in the United States or foreign jurisdictions. Method of use patents protect the use of a product for the specified method. We cannot be certain, however, that the claims in our pending patent applications covering methods of use of our current or future product candidates will be considered patentable by the USPTO, or by patent offices in foreign jurisdictions, or that the claims in any of our patents that may issue will be considered valid and enforceable by courts in the United States or foreign jurisdictions. Further, this type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, once approved for therapeutic use by FDA. or counterpart foreign regulatory authorities, physicians may prescribe these products “off-label” for those uses that are covered by our method of use patents. Although off-label prescriptions may infringe or contribute to the infringement of method of use patents, the practice is common and such infringement is difficult to prevent or enforce against.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the laws of foreign jurisdictions may not protect our rights to the same extent as the laws of the United States. Patent applications in the United States and certain other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot know with certainty whether we were the first to file for patent protection. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Our pending and future patent applications may not result in patents being issued which protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies or products.

Changes in either the patent laws or interpretation of the patent laws in the United States and other jurisdictions may diminish the value of our patents or narrow the scope of our patent protection. These changes could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a negative effect on our business.

Moreover, we may be subject to a third-party pre-issuance submission of prior art to the USPTO or another patent office or become involved in opposition, derivation, reexamination, *inter partes* review (IPR), post-grant review (PGR) or interference proceedings challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or drugs and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize drugs without infringing third-party patent rights or obtaining a costly license from a third party. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize our current or future product candidates.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. An adverse determination in any such challenges may result in loss of exclusivity or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology, products or methods, or limit the duration of the patent protection of our technology, products or methods.

Moreover, patents have a limited lifespan. In the United States, if all maintenance fees are paid timely, the natural expiration of a patent is generally 20 years from the earliest filing date of a non-provisional patent application. Various extensions may be available; however, the life of a patent, and the protection it affords, is limited. For instance, a patent term extension based on regulatory delay may be available in the United States. However, only a single patent can be extended for each marketing approval, and any patent can be extended only once, for a single product. Moreover, the scope of protection during the period of the patent term extension does not necessarily extend to all claims, but instead only to claims that read on the product as approved. Laws governing analogous patent term extensions in foreign jurisdictions vary widely, as do laws governing the ability to obtain multiple patents from a single patent family. Additionally, we may not receive an extension if we fail to exercise due diligence during the testing phase or regulatory review process, apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. If we are unable to obtain patent term extension or restoration, or the term of any such extension is less than we request, the period during which we will have the right to exclusively market our product will be shortened and our competitors may obtain approval of competing products following our patent expiration and may take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data to launch their product earlier than might otherwise be the case, and our revenue could be reduced, possibly materially. In addition, although upon issuance in the United States a patent's term can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. Without patent protection for our current or future product candidates, including once the patent life has expired even if patents covering our product candidates are obtained, we may be open to competition from generic versions of such drugs. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized. Even if patents covering our current or future product candidates are obtained, once the patent term has expired for a product, we may be open to competition from generic medications. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing drugs similar or identical to ours.

Even if we have or obtain patents covering our products or methods, we may still be barred from making, using and selling such products or methods because of the patent rights of others. Others may have filed, and in the future may file, patent applications covering compositions, products or methods that are similar or identical to ours, which could materially affect our ability to successfully develop our technology or to successfully commercialize any approved products alone or with collaborators.

Patent applications in the United States and elsewhere are generally published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our methods and current or future product candidates could have been filed by others without our knowledge. Additionally, pending claims in patent applications which have been published can, subject to certain limitations, be later amended in a manner that could cover our platform technologies or related products. These patent applications may have priority over patent applications filed by us.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patents, trade secrets or other intellectual property as an inventor, co-inventor, owner or co-owner. For example, we or our licensors may have inventorship or ownership disputes arise from conflicting

obligations of employees, consultants or others who are involved in developing our current or future product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or our or our licensors' ownership of our owned or in-licensed patents, trade secrets or other intellectual property. If we or our licensors fail in defending any such claims, we may be required to pay monetary damages and we may also lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to our current or future product candidates. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

If we are sued for infringing intellectual property rights of third parties, such litigation could be costly and time consuming and could prevent or delay us from developing or commercializing our product candidates.

Our commercial success depends, in part, on our ability to develop, manufacture, market and sell our current or future product candidates without infringing the intellectual property and other proprietary rights of third parties. Third parties may allege that we have infringed or misappropriated their intellectual property. Litigation or other legal proceedings relating to intellectual property claims, with or without merit, is unpredictable and generally expensive and time consuming and, even if resolved in our favor, is likely to divert significant resources from our core business, including distracting our technical and management personnel from their normal responsibilities. 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 market 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. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

There is a substantial amount of intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, litigation or other adversarial proceedings regarding intellectual property rights with respect to our current or future product candidates. We cannot be certain that our product candidates and other proprietary technologies we may develop will not infringe existing or future patents owned by third parties. Third parties may assert infringement claims against us based on existing or future intellectual property rights. In the United States, proving invalidity in court requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. If we are found to infringe a third party's intellectual property rights, we could be forced, including by court order, to cease developing, manufacturing or commercializing the infringing product candidate or product. Alternatively, we may be required to obtain a license from such third party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product candidate. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our investigational products or force us to cease some of our business operations, which could materially harm our business.

We may not be aware of patents that have already been issued and that a third party, for example, a competitor in the fields in which we are developing our product candidates, might assert are infringed by our current or future product candidates, including claims to compositions, formulations, methods of manufacture or methods of use or treatment that cover our product candidates. It is also possible that patents owned by third parties of which we are aware, but which we do not believe are relevant to our product candidates and other proprietary technologies we may develop, could be found to be infringed by one or more of our current or future product candidates. In addition, because patent applications can take many years to issue, there may be currently pending patent applications that

may later result in issued patents that our current or future product candidates may infringe. 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 and sell our current or future product candidates. The pharmaceutical and biotechnology industries have produced a considerable number of patents, and it may not always be clear to industry participants, including us, which patents cover various types of products or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform. If we were sued for patent infringement, we would need to demonstrate that our current or future product candidates, products 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. Proving invalidity may be difficult. For example, in the United States, proving invalidity in court requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents, and there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. 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, which could have a material adverse effect on our business and operations. 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 litigation. In addition, we may not have sufficient resources to bring these actions to a successful conclusion.

We may choose to challenge the enforceability or validity of claims in a third party's U.S. patent by requesting that the USPTO review the patent claims in an *ex parte* re-examination, IPR or PGR proceeding. These proceedings are expensive and may consume our time or other resources. We may choose to challenge a third party's patent in patent opposition proceedings in the European Patent Office (EPO), or other foreign patent office. The costs of these opposition proceedings could be substantial and may consume our time or other resources. If we fail to obtain a favorable result at the USPTO, EPO or other patent office, then we may be exposed to litigation by a third party alleging that the patent may be infringed by our current or future product candidates or proprietary technologies.

If we are found to infringe a third-party's intellectual property rights, we could be forced, including by court order, to cease developing, manufacturing or commercializing the infringing product candidate or product. Alternatively, we may be required to obtain a license from such third-party in order to use the infringing technology and continue developing, manufacturing or marketing the infringing product candidate. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, and could divert the time and attention of our technical personnel and management, cause development delays, and/or require us to develop non-infringing technology, which may not be possible on a cost-effective basis, any of which could materially harm our business. In the event of a successful claim of infringement against us, we may have to pay substantial monetary damages, including treble damages and attorneys' fees for willful infringement, pay royalties and other fees, redesign our infringing drug or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure.

Our technology licensed from various third parties may be subject to retained rights.

Our future licensors may retain certain rights under the relevant agreements with us, including the right to use the underlying technology for noncommercial academic and research use, to publish general scientific findings from research related to the technology, and to make customary scientific and scholarly disclosures of information relating to the technology. It is difficult to monitor whether our licensors limit their use of the technology to these uses, and we could incur substantial expenses to enforce our rights to our licensed technology in the event of misuse.

In addition, the United States federal government retains certain rights in inventions produced with its financial assistance under the Patent and Trademark Law Amendments Act (Bayh-Dole Act). The federal government retains a "nonexclusive, nontransferable, irrevocable, paid-up license" for its own benefit. The Bayh-Dole Act also provides federal agencies with "march-in rights." March-in rights allow the government, in specified circumstances, to require the contractor or successors in title to the patent to grant a "nonexclusive, partially exclusive, or exclusive license" to a "responsible applicant or applicants." If the patent owner refuses to do so, the government may grant the license itself. We sometimes collaborate with academic institutions to accelerate our preclinical research or development, creating a risk that federal funds may be commingled. Therefore, we cannot be sure that any intellectual property co-developed from a collaboration with an academic institution will be free from government rights pursuant to the Bayh-Dole Act. If, in the future, we co-own or license in technology which is critical to our business that is developed in whole or in part with federal funds subject to the Bayh-Dole Act, our ability to enforce or otherwise exploit patents covering such technology may be adversely affected.

We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration date of a third-party patent, which might adversely affect our ability to develop and market our products.

Although we have reviewed certain third-party patents and patent filings that we believe may be relevant to our product candidates, we have not conducted a freedom-to-operate search or analysis for any of our current or future product candidates, and we may not be aware of patents or pending or future patent applications that, if issued, would block us from commercializing our product candidates. Thus, we cannot guarantee that our current or future product candidates, or our commercialization thereof, do not and will not infringe any third party's intellectual property.

We cannot guarantee that any patent searches or analyses that are performed, including the identification of relevant patents, the scope of patent claims or the expiration dates of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of our current or future product candidates in any jurisdiction. The scope of a patent claim is 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 future products. We may incorrectly determine that our products are not covered by a third-party patent or may incorrectly predict whether a third-party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our future products.

One aspect of the determination of patentability of our inventions depends on the scope and content of the "prior art," information that was or is deemed available to a person of skill in the relevant art prior to the priority date of the claimed invention. There may be prior art of which we are not aware that may affect the patentability of our patent claims or, if issued, affect the validity or enforceability of a patent claim.

The landscape of intellectual property related to our current or future product candidates and future products is constantly changing. Therefore, we may not be aware of all third-party intellectual property rights potentially relating to our product candidates or their intended uses, and as a result the impact of such third-party intellectual property rights upon the patentability of our own patents and patent applications, as well as the impact of such third-party intellectual property upon our freedom to operate, is highly uncertain. Because patent applications in the United States and certain other jurisdictions are confidential for typically a period of at least 18 months after their priority date, or may not be published at all, we cannot be certain that we were the first to file any patent application related to our current or future product candidates. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain.

Furthermore, for U.S. applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third party or instituted by the USPTO to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. For U.S. applications containing a claim not entitled to priority before March 16, 2013, there is a greater level of uncertainty in the patent law in view of the passage of the America Invents Act, which brought into effect significant changes to the U.S. patent laws, including new procedures for challenging pending patent applications and issued patents. Should we fail to win an interference challenge, a third party may obtain rights to intellectual property related to our current or future product candidates and future products.

We may not be successful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

Because our programs may in the future require the use of proprietary rights held by third parties, the growth of our business may depend in part on our ability to acquire, in-license, or use these third-party proprietary rights. We may be unable to acquire or in-license any compositions, methods of use, processes or other third-party intellectual property rights from third parties that we identify as necessary for our product candidates. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies may pursue 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, capital 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. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all. If we are unable to successfully obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of the relevant program or product candidate, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

While we normally seek to obtain the right to control prosecution, maintenance and enforcement of the patents relating to our product candidates, there may be times when the filing and prosecution activities for patents and patent applications relating to our product candidates are controlled by our future licensors or collaboration partners. If any of our future licensors or collaboration partners fail to prosecute, maintain and enforce such patents and patent applications in a manner consistent with the best interests of our business, including by payment of all applicable fees for patents covering our product candidates, we could lose our rights to the intellectual property or our exclusivity with respect to those rights, our ability to develop and commercialize those product candidates may be adversely affected and we may not be able to prevent competitors from making, using and selling competing products. In addition, even where we have the right to control patent prosecution of patents and patent applications we have licensed to and from third parties, we may still be adversely affected or prejudiced by actions or inactions of our licensees, our future licensors and their counsel that took place prior to the date upon which we assumed control over patent prosecution.

We may enter into license agreements in the future with others to advance our existing or future research or allow commercialization of our current or future product candidates. These licenses may not provide exclusive rights to use such intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our technology platform or product candidates in the future.

In addition, subject to the terms of any such license agreements, we may not have the right to control the preparation, filing, prosecution, maintenance, enforcement, and defense of patents and patent applications covering the technology that we license from third parties. In such an event, 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 future licensors fail to prosecute, maintain, enforce, and defend such patents or patent applications, 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 current or future product candidates that are subject of such licensed rights could be adversely affected.

Our future licensors may rely on third-party consultants or collaborators or on funds from third parties such that our future licensors are not the sole and exclusive owners of the patents we in-license. If other third parties have ownership rights to our future in-licensed patents, they may be able to license such patents to our competitors, and our competitors could market competing products and technology. This could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

It is possible that we may be unable to obtain necessary licenses at a reasonable cost or on reasonable terms, if at all. 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 redesign our technology, product candidates, or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to develop or commercialize the affected product candidates, which could harm our business, financial condition, results of operations, and prospects significantly. We cannot provide any assurances that third-party patents do not exist which might be enforced against our current technology, manufacturing methods, product candidates, or future methods or products resulting in either an injunction prohibiting our manufacture or future sales, or, with respect to our future sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties, which could be significant.

Disputes may arise between us and our future 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 patents and other rights to third parties;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- our right to transfer or assign the license;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our future licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, the agreements under which we license intellectual property or technology from third parties are 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 increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we license in the future prevent or impair our ability to maintain our licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial conditions, results of operations, and prospects.

In spite of our best efforts, our future licensors might conclude that we materially breached our license agreements and might therefore terminate the license agreements, thereby removing our ability to develop and commercialize products and technology covered by these license agreements. If these in-licenses are terminated,

or if the underlying patents fail to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products identical to ours. This could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

From time to time, we may be required to license technologies relating to our programs from additional third parties to further develop or commercialize our current or future product candidates. Should we be required to obtain licenses to any third-party technology, including any such patents required to manufacture, use or sell our product candidates, such licenses may not be available to us on commercially reasonable terms, or at all. The inability to obtain any third-party license required to develop or commercialize any of our product candidates could cause us to abandon any related efforts, which could seriously harm our business and operations.

We may be involved in lawsuits to protect or enforce our patents, which could be expensive, time consuming and unsuccessful. Further, our issued patents could be found invalid or unenforceable if challenged in court.

Competitors may infringe our intellectual property rights. To prevent infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in a patent infringement proceeding, a court may decide that a patent we own or license is not valid, is unenforceable and/or is not infringed. If we or any of our potential future collaborators were to initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent is invalid and/or unenforceable in whole or in part. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge include an alleged failure to meet any of several statutory requirements, including but not limited to lack of novelty, obviousness, or insufficient written description or enablement. Grounds for an unenforceability assertion could include an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution.

Third parties may also raise similar invalidity claims before the USPTO or patent offices abroad, even outside the context of litigation. Such mechanisms include re-examination, PGR, IPR, derivation proceedings, interference proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in loss of rights to, the revocation of, cancellation of or amendment to our patents in such a way that they no longer cover our technology or platform, or any product candidates that we may develop. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. There is also no assurance that there is not prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim in our patents and patent applications, which may, nonetheless, ultimately be found to affect the validity or enforceability of a patent claim. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates or other intellectual property that we may develop. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened or questioned, it could dissuade companies from collaborating with us to license, develop or commercialize our current or future product candidates. Such a loss of patent protection would have a material adverse impact on our business, financial condition, results of operations and prospects.

Even if resolved in our favor, litigation or other legal proceedings relating to our intellectual property rights 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 or other legal proceedings relating to our intellectual property rights, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation or other proceedings. 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 conduct such litigation or proceedings adequately. 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. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace.

We may be subject to claims that we or our employees have misappropriated the intellectual property, including confidential information, know-how or trade secrets, of a third-party, or claiming ownership of what we regard as our own intellectual property.

Many of our employees, consultants and contractors were previously employed at or engaged by other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Some of these employees, consultants and contractors executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. Although we try to ensure that our employees, consultants and contractors 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 we have wrongfully hired an employee from a competitor or that we or these employees, consultants or contractors have used or disclosed such third-party intellectual property, including know-how, trade secrets or other proprietary information, to us. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, it may a have negative impact on our business and our ability to develop product candidates or commercialize our technology. In addition to paying substantial monetary damages, we may lose valuable intellectual property rights or personnel, or access to consultants and contractors. Even if we are successful in defending against such claims, litigation could incur substantial costs and be a distraction to management and scientific personnel.

In addition, while we typically require our employees, consultants and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own, which may result in claims by or against us related to the ownership of such intellectual property. If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our senior management and scientific personnel.

We may license intellectual property rights from third parties. Such licenses may be subject to early termination if we fail to comply with our obligations in our licenses with third parties, which could result in the loss of rights or technology that are material to our business.

We may become a party to licenses that give us rights to third-party intellectual property or technology that is necessary or useful for our business, and we may enter into additional licenses in the future. Under these license agreements, we are or may become obligated to pay the licensor fees, which may include annual license fees, milestone payments, royalties, a percentage of revenues associated with the licensed technology and a percentage of sublicensing revenue. These fees may be significant, which could make it difficult for us to achieve or maintain profitability. In addition, under certain of such agreements, we are or may become required to diligently pursue the development of products using the licensed technology. If we fail to comply with these obligations, including due to our use of the intellectual property licensed to us in an unauthorized manner, and fail to cure our breach within a specified period of time, the licensor may have the right to terminate the applicable license, in which event we could lose valuable rights and technology that are material to our business, harming our ability to develop, manufacture and/or commercialize our platform, products or product candidates.

In addition, the agreements under which we license intellectual property or technology to or from third-parties can be 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 increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

The licensing and acquisition of third-party intellectual property rights is a competitive practice, and companies that may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our product candidates. More established companies may have a competitive advantage over us due to their larger size and cash resources or greater clinical development and commercialization capabilities. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional product candidates that we may seek to acquire. The failure to obtain or in-license any compositions, methods of use, processes or other third-party intellectual property rights at a reasonable cost or on reasonable terms, could harm our business. If we fail to obtain licenses to necessary third-party intellectual property rights, we may need to cease use of the compositions or methods covered by such third-party intellectual property rights. Furthermore, we may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. 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.

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

Periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents and/or applications will be due to be paid to the USPTO and various government patent agencies outside of the United States over the lifetime of our owned and licensed patents and/or applications and any patent rights we may own or license in the future. We rely on our outside counsel, patent annuity service providers, or our licensing partners to pay these fees due to non-U.S. patent agencies. If these fees are not paid to the USPTO or the non-U.S. patent agencies when due, our rights to such patents or patent applications may be abandoned or otherwise materially impaired.

The USPTO and various non-U.S. government patent agencies require compliance with numerous procedural, documentary, and other similar provisions during the patent application process. For example, many jurisdictions, including the U.S. and China, require a foreign filing license before seeking patent protection in a jurisdiction outside of the jurisdiction of which the inventor is a citizen or in which the invention was made. Each jurisdiction's laws regarding foreign filing licenses vary and may even conflict. We employ reputable law firms in foreign jurisdictions and other professionals to help us comply and we are also dependent on any licensors to take the necessary action to comply with these requirements with respect to our intellectual property. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which non-compliance 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.

Additional non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, potential competitors might be able to enter the market and this circumstance could harm our business.

We may not be able to protect our intellectual property rights throughout the world, which could negatively impact our business.

Filing, prosecuting, maintaining, enforcing, and defending patent applications and patents covering our current and any future product candidates worldwide is prohibitively expensive, so we will pursue patents in a limited number of jurisdictions. Moreover, our intellectual property rights in some jurisdictions outside the United States can have a different scope and strength than do those in the United States. Consequently, we will not be able to prevent third parties from practicing our inventions in all jurisdictions, or from selling or importing in and into various jurisdictions products made using our inventions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own product candidates and, further, may export otherwise infringing product candidates to territories where we may obtain patent protection, but where patent enforcement is not as strong as that in the United States. Further, these product candidates may compete with our product candidates in jurisdictions where we do not have any issued or licensed patents and any future patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing.

Many companies have encountered significant problems protecting and defending intellectual property rights in jurisdictions outside the United States. The legal systems of certain jurisdictions do not favor the enforcement of patents, trade secrets and other intellectual property rights, particularly those relating to pharmaceutical products, which could make it difficult in those jurisdictions for us to stop the infringement or misappropriation of our patents or other intellectual property rights, including the marketing of competing products in violation of our proprietary rights. Proceedings to enforce our patents and other intellectual property rights in jurisdictions outside the United States could result in substantial costs and divert our efforts and attention from other aspects of our business. Furthermore, such proceedings could put our patents at risk of being invalidated, held unenforceable, or interpreted narrowly, could put our patent applications at risk of not issuing, and could provoke third parties to assert claims of infringement or misappropriation 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. Similarly, if our trade secrets are disclosed in a foreign jurisdiction, competitors worldwide could have access to our proprietary information and we may be without satisfactory recourse. Such disclosure could have a material adverse effect on our business.

Our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in intellectual property laws in the United States and around the world. For example, in Europe, a new unitary patent system took effect June 1, 2023, which will significantly impact European patents, including those granted before the introduction of such a system. Under the unitary patent system, European applications have the option, upon grant of a patent, of becoming a Unitary Patent which will be subject to the jurisdiction of the Unitary Patent Court (UPC). As the UPC is a new court system, there is no precedent for the court, increasing the uncertainty of any litigation. Patents granted before the implementation of the UPC will have the option of opting out of the jurisdiction of the UPC and remaining as national patents in the UPC countries. Patents that remain under the jurisdiction of the UPC will be potentially vulnerable to a single UPC-based revocation challenge that, if successful, could invalidate the patent in all countries who are signatories to the UPC. We cannot predict with certainty the long-term effects of any potential changes. Certain jurisdictions, including China and India, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties under certain circumstances. In those jurisdictions, we and our licensors may have limited remedies if patents are infringed or if we or our licensors are compelled to grant a license to a third party, which could materially diminish the value of those patents. In addition, many jurisdictions limit the enforceability of patents against government agencies or government contractors. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

If we do not obtain patent term extension and data exclusivity for any product candidates we may develop, our business may be materially harmed.

Depending upon the timing, duration and specifics of any FDA marketing approval of any product candidates we may develop and our technology, one or more U.S. patents that we license or may own in the future may be eligible for limited patent term extension under the Hatch-Waxman Amendments. Under certain circumstances the Hatch-Waxman Amendments permit a patent extension term of up to five years as compensation for patent term lost during the FDA regulatory review process. A patent term extension cannot extend the term of a patent beyond a total of 14 years from the date of product approval, only one patent may be extended and only those claims covering the approved product, a method for using it or a method for manufacturing it may be extended. The application for the extension must be submitted prior to the expiration of the patent for which extension is sought and within 60 days of FDA approval. A patent that covers multiple products for which approval is sought can only be extended in connection with one of the approvals. However, we may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the applicable patent term extension or the scope of patent protection afforded could be less than we request. In addition, to the extent we wish to pursue patent term extension based on a patent that we in-license from a third party, we would need the cooperation of that third party. If we are unable to obtain patent term extension or the term of any such extension is less than we request, we may be open earlier than projected to competition from competitive products, including generics or biosimilars following our patent expiration, and our revenue could be reduced earlier than projected. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of our trade secrets and other proprietary information. If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

In addition to the protection afforded by patents, we seek to rely on trade secret protection and confidentiality agreements to protect proprietary information and confidential know-how that we elect not to patent (e.g., our Native Complex Platform drug discovery platform), processes for which patents are difficult to enforce, and any other elements of our current or future product candidates, technology and product discovery, development processes and drug discovery platform that involve proprietary know-how, information, or technology that is not covered by patents. Any disclosure, either intentional or unintentional, by our employees, the employees of third parties with whom we share our facilities or third-party consultants and vendors that we engage to perform research, clinical trials or manufacturing activities, or misappropriation by third parties (such as through a cybersecurity breach) of our trade secrets or proprietary information could enable competitors to duplicate or surpass our technological achievements, thus eroding our competitive position in our market. Because we expect to rely on third parties in the development and manufacture of our product candidates, we must, at times, share trade secrets with them. Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Trade secrets, confidential know-how and proprietary information, however, may be difficult to protect. We seek to protect our trade secrets, confidential know-how and proprietary information, including our proprietary processes and drug discovery platform, in part, by entering into confidentiality agreements with our employees, consultants, outside scientific advisors, contractors, and collaborators. With our consultants, contractors, and outside scientific collaborators, these agreements typically include invention assignment obligations. Although we use reasonable efforts to protect our trade secrets, we cannot provide any assurances that all such agreements have been duly executed, and notwithstanding the existence of a confidentiality agreement our employees, consultants, outside scientific advisors, contractors, and collaborators might intentionally or inadvertently disclose our trade secret information, including to competitors. In addition, competitors or other third parties may

otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Despite our efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. Furthermore, the laws of some foreign jurisdictions do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, or misappropriation of our intellectual property by third parties, we may not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results, and financial condition.

Our intellectual property rights do not necessarily protect against all potential threats to our business.

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. These risks and uncertainties include the following:

- others may be able to make compounds or formulations that are similar to our current or future product candidates but that are not covered by the claims of any patents, should they issue, that we own or control;
- we or any strategic partners might not have been the first to make the inventions covered by the issued patents or pending patent applications that we own or control;
- we might not have been the first to file patent applications covering certain of our current or future product candidates or inventions we own or control;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- pending patent applications that we own or control may not lead to issued patents;
- issued patents that we own or control may be held invalid or unenforceable as a result of legal challenges;
- our competitors might conduct research and development activities in the United States and other jurisdictions that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in jurisdictions where we do not have patent rights and then use the information learned from such activities to develop competitive drugs for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

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

Our current or future trademarks or trade names may be challenged, opposed, infringed, circumvented, invalidated, cancelled, declared generic, determined to be not entitled to registration, or determined to be infringing on other marks. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in foreign jurisdictions. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable

agencies in many other jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. Trademark litigation could be expensive. In addition, we could be found liable for significant monetary damages, including treble damages, disgorgement of profits and attorneys' fees, if we are found to have willfully infringed a trademark. We may not be able to protect our exclusive right to trademarks or trade names or may be forced to stop using these names, which we need for name recognition by potential collaborators or customers in our markets of interest. If we are unable to establish name recognition based on our trademarks or trade names, we may not be able to compete effectively and our business may be adversely affected. We may license our trademarks or trade names to third parties, such as distributors. Though these agreements may provide guidelines for how our trademarks or trade names may be used, a breach of these agreements or misuse of our trademarks or tradenames by third parties may jeopardize our rights in or diminish the goodwill associated with our trademarks or trade names.

Moreover, any name we have proposed to use with our product candidates in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA (or an equivalent administrative body in a foreign jurisdiction) objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA or equivalent body. Furthermore, in many jurisdictions, owning and maintaining a trademark registration may not provide an adequate defense against a subsequent infringement claim asserted by the owner of a senior trademark.

We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors or other third parties 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 that incorporate variations of our registered or unregistered trademarks or trade names. Furthermore, assertions of potential trademark infringement or possible market confusion may lead to coexistence agreements in order to avoid costly disputes related to our trademarks. As a consequence, we may be forced to amend the list of goods and services covered by our trademarks more narrowly than as originally filed and intended, which could adversely affect our ability to establish name recognition. 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. Our efforts to enforce or protect our proprietary rights related to trademarks, trade names, domain name or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our business, financial condition, results of operations and prospects.

Rights to improvements to our product candidates may be held by third parties.

In the course of testing our current or future product candidates, we may enter into agreements with third parties to conduct clinical testing, which may provide that improvements to our product candidates may be owned solely by a third party or jointly between the parties. If we determine that rights to such improvements owned solely by a third party are necessary to commercialize our product candidates or maintain our competitive advantage, we may need to obtain a license from such third party in order to use the improvements and continue developing, manufacturing or marketing the product candidates. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain such a license, it could be granted on non-exclusive terms, thereby giving our competitors and other third parties access to the same technologies licensed to us. Failure to obtain a license on commercially reasonable terms or at all, or to obtain an exclusive license, could prevent us from commercializing our current or future product candidates or force us to cease some of our business operations, which could materially harm our business. If we determine that rights to improvements jointly owned between us and a third party are necessary to commercialize our

product candidates or maintain our competitive advantage, we may need to obtain an exclusive license from such third party. If we are unable to obtain an exclusive license to any such third-party co-owners' interest in such improvements, such co-owners may be able to license their rights to other parties, including our competitors, and our competitors could market competing products and technology. In addition, we may need the cooperation of any such co-owners of our intellectual property in order to enforce such intellectual property against other parties, and such cooperation may not be provided to us. Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

The use of new and evolving technologies, such as artificial intelligence, in our offerings may present risks and challenges that can impact our business including by posing security risks to our confidential information, proprietary information, and personal data.

Issues in the development and use of artificial intelligence, combined with an uncertain regulatory environment, may result in reputational harm, liability, or other adverse consequences to our business operations. As with many technological innovations, artificial intelligence presents risks and challenges that could impact our business. We may adopt and integrate artificial intelligence tools into our processes for specific use cases reviewed by legal and information security. If we enable or offer solutions that draw controversy due to perceived or actual negative societal impact, we may experience brand or reputational harm, competitive harm or legal liability. The use of certain artificial intelligence technology can give rise to intellectual property risks, including compromises to proprietary intellectual property and intellectual property infringement. Additionally, we expect to see increasing government and supranational regulation related to artificial intelligence use and ethics, which may also significantly increase the burden and cost of research, development and compliance in this area. For example, several jurisdictions around the globe, including Europe and certain U.S. states, have proposed enacted, or are considering laws governing the development and use of artificial intelligence, such as the EU's AI Act. We expect other jurisdictions will adopt similar laws. Additionally, certain privacy laws extend rights to consumers (such as the right to delete certain personal data) and regulate automated decision making, which may be incompatible with our use artificial intelligence. These obligations may make it harder for us to conduct our business using artificial intelligence, lead to regulatory fines or penalties, require us to change our business practices, retrain our artificial intelligence, or prevent or limit our use of artificial intelligence. For example, the FTC has required other companies to turn over (or disgorge) valuable insights or trainings generated through the use of artificial intelligence where they allege the company has violated privacy and consumer protection laws. If we cannot use artificial intelligence or that use is restricted, our business may be less efficient, or we may be at a competitive disadvantage. The rapid evolution of artificial intelligence will require the application of significant resources to design, develop, test and maintain our products and services to help ensure that artificial intelligence is implemented in accordance with applicable law and regulation and in a socially responsible manner and to minimize any real or perceived unintended harmful impacts. Our vendors may in turn incorporate artificial intelligence tools into their own offerings, and the providers of these artificial intelligence tools may not meet existing or rapidly evolving regulatory or industry standards, including with respect to data protection, privacy, and security. Further, bad actors around the world use increasingly sophisticated methods, including the use of artificial intelligence, to engage in illegal activities involving the theft and misuse of personal data, confidential information and intellectual property. Any of these effects could damage our reputation, result in the loss of valuable property and information, cause us to breach applicable laws and regulations, and adversely impact our business.

Risks Related to this Offering, Ownership of Our Common Stock, and Operating as a Public Company

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, there was no public trading market for our common stock. If a market for our common stock does not develop or is not sustained, it may be difficult for you to sell your shares of our common stock at

an attractive price or at all. We cannot predict the prices at which our common stock will trade. It is possible that in one or more future periods our results of operations may be below the expectations of public market analysts and investors, and, as a result of these and other factors, the price of our common stock may fall. An inactive market may also impair our ability to raise capital by selling our common stock and our ability to acquire other companies, products, or technologies by using our common stock as consideration.

You will incur immediate and substantial dilution as a result of this offering.

If you purchase common stock in this offering, you will incur immediate and substantial dilution of approximately $ per share, representing the difference between the assumed initial public offering price of $ per share, the midpoint of the estimated price range set forth on the cover page of this prospectus, and our pro forma as adjusted net tangible book value per share as of June 30, 2024 after giving effect to this offering and the automatic conversion of all outstanding shares of our preferred stock upon the closing of this offering. That is because the price that you pay will be substantially greater than the pro forma as adjusted net tangible book value per share of the common stock that you acquire. 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. You will experience additional dilution if the underwriters exercise their option to purchase additional shares in this offering, when those holding stock options exercise their right to purchase common stock under our equity incentive plans, upon the vesting of outstanding restricted stock awards or when we otherwise issue additional shares of our common stock. See the section titled "Dilution" for a further description of the dilution you will experience immediately after this offering.

The market price of our common stock may be volatile, which could result in substantial losses for investors purchasing shares in this offering.

The initial public offering price for our common stock was determined through negotiations with the underwriters. This initial public offering price may vary from the market price of our common stock after the offering. As a result, you may not be able to sell your common stock at or above the initial public offering price. The market price for our common stock may be influenced by those factors discussed in this "Risk Factors" section and many others, some of which may include:

- the success of existing or new competitive product candidates or technologies;
- the commencement, enrollment, completion and results of preclinical studies and clinical trials for our current and future product candidates;
- adverse results or delays, suspensions or terminations in future preclinical studies or clinical trials;
- unanticipated serious safety concerns related to our current or future product candidates
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- adverse regulatory decisions, including failure to receive regulatory approval of our current or future product candidates or the failure of a regulatory authority to accept data from preclinical studies or clinical trials conducted in other countries;
- our failure to commercialize our current or future product candidates, if approved;
- failure or discontinuation of any of our development and research programs;
- results of any preclinical studies, clinical trials or regulatory approvals of product candidates of our competitors, or announcements about new research programs or product candidates of our competitors;
- commencement or termination of collaborations for our product development and research programs;
- regulatory or legal developments in the United States and other countries;

- developments or disputes concerning patent applications, issued patents or other intellectual property or proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our research programs, clinical development programs or product candidates that we may develop;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts, if any, that cover our stock;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us, our insiders or other stockholders;
- expiration of market stand-off or lock-up agreements;
- our ability to effectively manage our growth;
- actual or anticipated variations in quarterly operating results;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- trading volume of our common stock;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in accounting practices;
- ineffectiveness of our internal controls;
- significant lawsuits, including patent or stockholder litigation;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, political, industry and market conditions; and
- the other factors described in this “Risk Factors” section.

In addition, the stock market in general, and the market for pharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. If the market price of our common stock after this offering does not exceed the initial public offering price, you may not realize any return on your investment in us and may lose some or all of your investment. In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company’s securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management’s attention and resources.

We have wide discretion in the use of the net proceeds from this offering and may not use them effectively.

We cannot specify with certainty the particular uses of the net proceeds we will receive from this offering. Our management will have wide discretion in the application of the net proceeds, including for any of the purposes described in “Use of Proceeds.” Accordingly, you will have to rely upon the judgment of our management with respect to the use of the proceeds, with only limited information concerning management’s specific intentions. Our management may spend a portion or all of the net proceeds from this offering in ways

that our stockholders may not desire or that may not yield a favorable return. The failure by our management to apply these funds effectively could harm our business, financial condition, results of operations and prospects. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

Future sales of our common stock in the public market could cause our stock price to fall.

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

Upon the completion of this offering, shares of our common stock will be outstanding (or shares of common stock will be outstanding assuming exercise in full of the underwriters' option to purchase additional shares), based on our shares outstanding as of June 30, 2024. All shares of our common stock expected to be sold in this offering will be freely tradable without restriction or further registration under the Securities Act, unless held by our "affiliates," as that term is defined in Rule 144 under the Securities Act. The resale of the remaining shares, or % of our outstanding shares after this offering, is currently prohibited or otherwise restricted as a result of securities law provisions, market standoff agreements entered into by our stockholders with us or lock-up agreements entered into by our stockholders with the underwriters. However, subject to applicable securities law restrictions and excluding shares of our restricted stock that will remain unvested, these shares will be able to be sold in the public market beginning 180 days after the date of this prospectus. Shares of our unvested restricted stock subject to repurchase or forfeiture that were issued and outstanding as of the date of this prospectus will become available for sale immediately upon the vesting of such shares, as applicable, and the expiration of any applicable market stand-off or lock-up agreements. Shares issued upon the exercise of stock options pursuant to future awards that may be granted 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, any applicable market stand-off and lock-up agreements and Rule 144 and Rule 701 under the Securities Act. For more information see the section titled "Shares Eligible for Future Sale" included elsewhere in this prospectus.

Upon the completion of this offering, the holders of approximately shares, or %, 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 other stockholders. We also intend to register the offer and sale of all shares of our 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 to be issued under our equity incentive plans, they can be freely sold in the public market upon issuance, subject to the lock-up agreements described in the section titled "Underwriting" included elsewhere in this prospectus.

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

We are an "emerging growth company" and a "smaller reporting company," and the reduced reporting requirements applicable to emerging growth companies and smaller reporting companies may 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 may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to

comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy 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. In addition, as an emerging growth company, we are only required to provide two years of audited financial statements in this prospectus. We could be an emerging growth company for up to five years following the completion of this offering, although circumstances could cause us to lose that status earlier, including if we are deemed to be a "large accelerated filer," which occurs when the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of the prior June 30, or if we have total annual gross revenue of $1.235 billion or more during any fiscal year before that time, in which cases we would no longer be an emerging growth company as of the following December 31, or if we issue more than $1.0 billion in non-convertible debt during any three-year period before that time, in which case we would no longer be an emerging growth company immediately. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

- not being required to comply with the auditor attestation requirements of Section 404;
- not being required to comply with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor's report on the financial statements.
- providing only two years of audited financial statements in addition to any required unaudited interim financial statements and a correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure in this prospectus;
- reduced disclosure obligations regarding executive compensation; 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. In this prospectus, we have not included all of the executive compensation-related information that would be required if we were not an emerging growth company.

Even after we no longer qualify as an emerging growth company, we could still qualify as a "smaller reporting company," which would allow us to take advantage of many of the same exemptions from disclosure requirements and reduced disclosure obligations regarding executive compensation in this prospectus and our periodic reports and proxy statements. 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 share price may be more volatile.

In addition, the JOBS Act provides that an emerging growth company can also take advantage of an extended transition period for complying with new or revised accounting standards until such time as those standards apply to private companies. We have elected to avail ourselves of this exemption from new or revised accounting standards, and therefore we will not be subject to the same requirements to adopt new or revised accounting standards as other public companies that are not emerging growth companies.

We are also a "smaller reporting company" as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as our common stock held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than $100.0 million during the most recently completed fiscal year and our common stock held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter.

We will incur significant increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. We will be subject to the reporting requirements of the Exchange Act, which will require, among other things, that we file with the SEC annual, quarterly and current reports with respect to our business and financial condition. In addition, the Sarbanes-Oxley Act, as well as rules subsequently adopted by the SEC and The Nasdaq Global Market (Nasdaq) to implement provisions of the Sarbanes-Oxley Act, impose significant requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial reporting controls and changes in corporate governance practices. Further, in July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that require the SEC to adopt additional rules and regulations in these areas such as "say on pay" and proxy access. Recent legislation permits emerging growth companies to implement many of these requirements over a longer period and up to five years from the pricing of this offering. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate.

We expect the rules and regulations applicable to public companies to substantially increase our legal and financial compliance costs and to make some activities more time-consuming and costly. If these requirements divert the attention of our management and personnel from other business concerns, they could have an adverse effect on our business. The increased costs will decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business or increase the prices of our products or services. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

Insiders will continue to have substantial influence over us after this offering, which could limit your ability to affect the outcome of key transactions, including a change of control.

After this offering, our directors and executive officers and their affiliates will beneficially own shares representing approximately % of our outstanding common stock. As a result, these stockholders, if they act together, will be able to influence our management and affairs and 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 concentration of ownership may have the effect of delaying or preventing a change in control of our company and might affect the market price of our common stock.

We do not expect to pay any dividends for the foreseeable future. Investors in this offering may never obtain a return on their investment.

You should not rely on an investment in our common stock to provide dividend income. We do not anticipate that we will pay any dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain any earnings to maintain and expand our existing operations. In addition, any future credit facility may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not purchase our common stock.

If we fail to establish and maintain proper and effective internal control over financial reporting, our operating results and our ability to operate our business could be harmed.

Ensuring that we have adequate internal financial and accounting controls and procedures in place so that we can produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with generally accepted accounting principles. In connection with this offering, we intend to begin the process of documenting, reviewing and improving our internal controls and procedures for compliance with Section 404 of the Sarbanes-Oxley Act, which will require annual management assessment of the effectiveness of our internal control over financial reporting starting with our second filing of an Annual Report on Form 10-K.

Implementing any appropriate changes to our internal controls may distract our officers and employees, entail substantial costs to modify our existing processes and take significant time to complete. These changes may not, however, be effective in maintaining the adequacy of our internal controls, and any failure to maintain that adequacy or consequent inability to produce accurate financial statements on a timely basis could increase our operating costs and harm our business. In addition, investors' perceptions that our internal controls are inadequate or that we are unable to produce accurate financial statements on a timely basis cause investors to lose confidence in the accuracy and completeness of our financial reports and could cause the market price of our common stock to decline significantly.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon the closing of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We designed our disclosure controls and procedures to reasonably assure that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well-conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

If we experience material weaknesses in the future or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to accurately or timely report our financial condition or results of operations, which may adversely affect investor confidence in us and, as a result, the value of our common stock.

We may in the future discover material weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

We, and our independent registered public accounting firm, were not required to perform an evaluation of our internal control over financial reporting as of December 31, 2023 in accordance with the provisions of the

Sarbanes-Oxley Act. Accordingly, we cannot assure you that we will not in the future identify material weaknesses. Material weaknesses may exist when we become required to report on the effectiveness of our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act after the completion of this offering.

If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls over financial reporting, we may not be able to produce timely and accurate financial statements. If that were to happen, our investors could lose confidence in our reported financial information, the market price of our stock could decline, and we could be subject to sanctions or investigations by the stock exchange on which our common stock is listed, the SEC or other regulatory authorities.

Provisions in our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the effectiveness of our registration statement and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management.

Our amended and restated certificate of incorporation and amended and restated bylaws that will become effective upon the effectiveness of our registration statement and Delaware law contain provisions that may have the effect of discouraging, delaying or preventing a change in control of us or changes in our management that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. Our amended and restated certificate of incorporation, which will become effective immediately prior to the closing of this offering, and amended and restated bylaws, which will become effective upon the effectiveness of the registration statement of which this prospectus is a part, include provisions that:

- authorize “blank check” preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock;
- create a classified board of directors whose members serve staggered three-year terms;
- specify that special meetings of our stockholders can be called only by our board of directors;
- prohibit stockholder action by written consent;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- provide that our directors may be removed only for cause;
- specify that no stockholder is permitted to cumulate votes at any election of directors;
- expressly authorized our board of directors to make, alter, amend or repeal our amended and restated bylaws; and
- require supermajority votes of the holders of our common stock to amend specified provisions of our amended and restated certificate of incorporation and amended and restated bylaws.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock.

In addition, because we are incorporated in the State of Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law (DGCL), which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

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

Our amended and restated bylaws that became effective upon the effectiveness of this registration statement designate certain courts as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by 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 bylaws that became effective upon effectiveness of the registration statement of which this prospectus forms a part provide that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any state law claims for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of, or a claim based on, fiduciary duty owed by any of our current or former directors, officers, and employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws (including the interpretation, validity or enforceability thereof) or (iv) any action asserting a claim that is governed by the internal affairs doctrine (Delaware Forum Provision). The Delaware Forum Provision will not apply to any causes of action arising under the Securities Act or the Exchange Act. Our amended and restated bylaws further provide that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the sole and exclusive forum for resolving any complaint asserting a cause or causes of action arising under the Securities Act (Federal Forum Provision). In addition, our amended and restated bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our common stock is deemed to have notice of and consented to the foregoing provisions; provided, however, that stockholders cannot and will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

The Delaware Forum Provision and the Federal Forum Provision in our amended and restated bylaws may impose additional litigation costs on stockholders in pursuing any such claims. Additionally, the forum selection clauses in our amended and restated bylaws may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers or employees, which may discourage such lawsuits against us and our directors, officers and employees even though an action, if successful, might benefit our stockholders. In addition, while the Delaware Supreme Court and other state courts have upheld the validity of federal forum selection provisions purporting to require claims under the Securities Act be brought in federal court, there is uncertainty as to whether other courts will enforce our Federal Forum Provision. If the Federal Forum Provision is found to be unenforceable, we may incur additional costs associated with resolving such matters. The Federal Forum Provision may also impose additional litigation costs on stockholders who assert that the provision is not enforceable or invalid. The Court of Chancery of the State of Delaware and the federal district courts of the United States may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments may be more or less favorable to us than our stockholders.

General Risk Factors

Unfavorable global economic conditions could adversely affect our business, financial condition, stock price, and results of operations.

The global credit and financial markets have experienced extreme volatility and disruptions (including as a result of actual or perceived changes in interest rates, inflation and macroeconomic uncertainties), which has included severely diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, high inflation, uncertainty about economic stability, global supply chain disruptions, and increases in unemployment rates. The financial markets and the global economy may also be adversely affected by the current or anticipated impact of military conflict, including the ongoing conflicts between Russia and Ukraine, and Israel and Hamas, terrorism, or other geopolitical events. Sanctions imposed by the United States and other countries in response to such conflicts, including the one in Ukraine, may also continue to adversely impact the financial markets and the global economy, and any economic countermeasures by the affected countries or others could exacerbate market and economic instability. There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions will not occur. A severe or prolonged economic downturn could result in a variety of risks to our business, including a decrease in the demand for our product candidates and in our ability to raise additional capital when needed on acceptable terms, if at all. There are also current geopolitical tensions with China that may affect our operations. For example, there has been proposed United States legislation, such as the bill titled the BIOSECURE Act, that may restrict the ability of United States pharmaceutical companies to purchase services or products from, or otherwise collaborate with, certain Chinese biotechnology companies of concern without losing the ability to contract with, or otherwise receive funding from, the United States government. We continue to assess the legislation as it develops to determine whether it could have an effect on our contractual relationships. Furthermore, any disruptions to our supply chain as a result of unfavorable global economic conditions, including due to geopolitical conflicts or public health crises, could negatively impact the timely execution of our ongoing and future clinical trials. In addition, current inflationary trends in the global economy may impact salaries and wages, costs of goods and transportation expenses, among other things, and recent and potential future disruptions in access to bank deposits or lending commitments due to bank failures may create market and economic instability. We cannot anticipate all of the ways in which the foregoing, and the current economic climate and financial market conditions generally, could adversely impact our business.

Adverse developments affecting the financial services industry, such as actual events or concerns involving liquidity, defaults, or non-performance by financial institutions or transactional counterparties, could adversely affect our current and projected business operations and our financial condition and results of operations.

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.

Although we assess our banking and customer relationships as we believe necessary or appropriate, our access to funding sources and other credit arrangements in amounts adequate to finance or capitalize our current and projected future business operations could be significantly impaired by factors that affect our Company, the financial institutions with which we have credit agreements or arrangements directly, or the financial services industry or economy in general. These factors could include, among others, events such as liquidity constraints or failures, the ability to perform obligations under various types of financial, credit or liquidity agreements or arrangements, disruptions or instability in the financial services industry or financial markets, or concerns or negative expectations about the prospects for companies in the financial services industry.

The results of events or concerns that involve one or more of these factors could include a variety of material and adverse impacts on our current and projected business operations and our financial condition and results of operations. These could include, but may not be limited to, the following:

- delayed access to deposits or other financial assets or the uninsured loss of deposits or other financial assets;
- potential or actual breach of statutory, regulatory or contractual obligations, including obligations that require us to maintain letters of credit or other credit support arrangements;
- termination of cash management arrangements and/or delays in accessing or actual loss of funds subject to cash management arrangements.

In addition, investor concerns regarding the United States or international financial systems could result in less favorable commercial financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. Any decline in available funding or access to our cash and liquidity resources could, among other risks, adversely impact our ability to meet our operating expenses, financial obligations or fulfill our other obligations, result in breaches of our financial and/or contractual obligations or result in violations of federal or state wage and hour laws. Any of these impacts, or any other impacts resulting from the factors described above or other related or similar factors not described above, could have material adverse impacts on our liquidity, our current and/or planned business operations, and our current or projected financial condition and results of operations.

In addition, any further deterioration in the macroeconomic economy or financial services industry could lead to losses or defaults by our suppliers, which in turn, could have a material adverse effect on our current and/or planned business operations and our current or projected results of operations and financial condition. For example, a customer may fail to make payments when due, default under their agreements with us, become insolvent or declare bankruptcy, or a supplier may determine that it will no longer deal with us as a customer. In addition, a customer or supplier could be adversely affected by any of the liquidity or other risks that are described above as factors that could result in material adverse impacts on the Company, including but not limited to delayed access or loss of access to uninsured deposits or loss of the ability to draw on existing credit facilities involving a troubled or failed financial institution. Any customer, collaborator or supplier bankruptcy or insolvency, or the failure of any customer or collaborator to make payments when due, or any breach or default by a customer, collaborator or supplier, or the loss of any significant supplier or collaborator relationships, could result in material losses to the Company and may have a material adverse impact on our business.

We may not be able to satisfy listing requirements of Nasdaq or obtain or maintain a listing of our common stock on Nasdaq.

If, after listing, we fail to satisfy Nasdaq's continued listing requirements, such as the corporate governance requirements or the minimum closing bid price requirement. Nasdaq may take steps to delist our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement or prevent future non-compliance with Nasdaq's listing requirements.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our stock, the price of our stock could decline.

The trading market for our common stock will rely in part on the research and reports that industry or financial analysts publish about us or our business. We do not currently have and may never obtain research

coverage by industry or financial analysts. If no or few analysts commence coverage of us, the trading price of our stock would likely decrease. Even if we do obtain analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our stock, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price to decline.

We may become involved in litigation that could divert management's attention and harm our business, and insurance coverage may not be sufficient to cover all costs and damages.

From time to time we may be subject to litigation claims through the ordinary course of our business operations regarding, but not limited to, securities litigation, employment matters, security of patient and employee personal data, contractual relations with collaborators and licensors and intellectual property rights. In the past, securities class action litigation has often followed certain significant business transactions, such as the sale of a company or announcement of any other strategic transaction, the announcement of negative events, such as negative results from clinical trials, or periods of volatility in the market price of a company's securities. These events may also result in or be concurrent with investigations by the SEC. We may be exposed to such litigation or investigation even if no wrongdoing occurred. Litigation and investigations are usually expensive and divert management's attention and resources, which could adversely affect our business and cash resources and our ability to consummate a potential strategic transaction or the ultimate value our stockholders receive in any such transaction.

Our insurance policies are expensive and only protect us from some business risks, which will leave us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include property, general liability, crime insurance, workers' compensation, and directors' and officers', employment practices and fiduciary liability insurance, clinical trial insurance, transportation insurance and umbrella insurance. We do not know, however, if we will be able to maintain insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our financial position and results of operations.

Our operations are vulnerable to interruption by disasters, terrorist activity, pandemics and other events beyond our control, which could harm our business.

Our facilities are located in California. We have not undertaken a systematic analysis of the potential consequences to our business and financial results from a major flood, power loss, terrorist activity, pandemics or other regional or global disasters and generally do not have a recovery plan for such events. 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.

Increased attention to, and evolving expectations for, environmental, climate change, social, and governance initiatives could increase our costs, harm our reputation, or otherwise adversely impact our business.

Companies across industries are facing increasing scrutiny from a variety of stakeholders related to their environmental, climate change, social, and governance (ESG) and sustainability practices. Expectations regarding voluntary ESG initiatives and disclosures may result in increased costs (including but not limited to increased costs related to compliance, stakeholder engagement, contracting and insurance), enhanced compliance or disclosure obligations, or other adverse impacts to our business, financial condition, or results of operations.

While we may at times engage in voluntary initiatives (such as voluntary disclosures, certifications, or goals, among others) to improve the ESG profile of the Company, such initiatives may be costly and may not

have the desired effect. Moreover, we may not be able to successfully complete such initiatives due to factors that are within or outside of our control. Even if this is not the case, our actions may subsequently be determined to be insufficient by various stakeholders, and we may be subject to investor or regulator engagement on our ESG efforts, even if such initiatives are currently voluntary.

Certain market participants, including major institutional investors and capital providers, use third-party benchmarks and scores to assess companies' ESG profiles in making investment or voting decisions. Unfavorable ESG ratings could lead to increased negative investor sentiment towards us, which could negatively impact our share price as well as our access to and cost of capital. To the extent ESG matters negatively impact our reputation, it may also impede our ability to compete as effectively to attract and retain employees, which may adversely impact our operations.

In addition, we expect there will likely be increasing levels of regulation, disclosure-related and otherwise, with respect to ESG matters. For example, the SEC has issued rules that require companies to provide significantly expanded climate-related disclosures in their periodic reporting, which may require us to incur significant additional costs to comply, including the implementation of significant additional internal controls processes and procedures regarding matters that have not been subject to such controls in the past, and impose increased oversight obligations on our management and board of directors. These and other changes in stakeholder expectations will likely lead to increased costs as well as scrutiny that could heighten all of the risks identified in this risk factor. Additionally, our business partners may be subject to similar expectations, which may augment or create additional risks, including risks that may not be known to us.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections titled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," and "Business," contains express or implied forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future operational or financial performance, and involve known and unknown risks, uncertainties and other 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 these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- the initiation, timing, progress, results and costs of conducting our research and development programs and our current and future preclinical studies and anticipated clinical trials, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available, and our current and future programs;
- our ability to demonstrate, and the timing of, preclinical proof-of-concept *in vivo* and *ex vivo* for multiple programs;
- our ability to advance any product candidates that we may identify and successfully complete any clinical studies, including the manufacture of any such product candidates;
- the timing, scope and likelihood of regulatory filings and approvals, including timing of INDs or comparable foreign applications, and final FDA approval of our current product candidates or any future product candidates;
- the timing, scope or likelihood of foreign regulatory filings and approvals;
- the implementation of our business model, and strategic plans for our business, product candidates, and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and other product candidates we may develop, including the extensions of existing patent terms where available, the validity of intellectual property rights held by third parties, and our ability not to infringe, misappropriate or otherwise violate any third-party intellectual property rights;
- developments relating to our competitors and our industry;
- our ability to leverage programs within our initial target indications and to progress additional programs to further develop our pipeline;
- our ability of our preclinical studies and clinical trials to demonstrate safety and efficacy of our product candidates, and other positive results;
- our ability to identify and enter into future license agreements and collaborations and the potential benefits of such agreements and collaborations;
- our ability to rely on third-party manufacturers and successfully manufacture product candidates for preclinical use, clinical trials and on a larger scale for commercial use, if approved;
- our ability to realize the benefits of collaborations for the development and commercialization of current and future product candidates;
- our ability to commercialize any current and future product candidates;
- developments related to our proprietary Native Complex Platform™;

- regulatory developments in the United States and foreign countries;
- our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates;
- the size and growth potential of the markets for our current and future product candidates and our ability to serve those markets;
- our ability to attract and retain key scientific and management personnel;
- our expectations regarding the period during which we will remain an emerging growth company under the JOBS Act;
- our anticipated use of proceeds from this offering, estimates of our expenses, capital requirements, and needs for additional financing;
- the impact of global economic and political developments on our business, including rising inflation and capital market disruptions, economic sanctions and economic slowdowns or recessions that may result from such developments which could harm our research and development efforts as well as the value of our common stock and our ability to access capital markets;
- the ultimate impact of health epidemics, pandemics, and other widespread outbreaks of contagious disease, including mitigation efforts and economic effects, on any of the foregoing or other aspects of our business operations, including but not limited to our clinical trials, our research programs, healthcare systems or the global economy as a whole; and
- other risks and uncertainties, including those listed under the section titled "Risk Factors."

In some cases, you can identify forward-looking statements by terminology such as "anticipates," "believes," "continue," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "should" or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under the section titled "Risk Factors" and elsewhere in this prospectus. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement, of which this prospectus forms a part, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. Statements that contain "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. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

This prospectus also contains estimates, projections and other information concerning our industry, our business and the markets for our product candidates. Information that is based on estimates, forecasts,

projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from our own internal estimates and research as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties and are subject to change based on various factors, including those discussed under the section titled “Risk Factors” and elsewhere in this prospectus.

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of shares of our common stock in this offering will be approximately $ million (or approximately $ million if the underwriters exercise their option to purchase additional shares in full), assuming an initial public offering price of $ per share, which is the midpoint of the estimated 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.

A $1.00 increase or decrease in the assumed initial public offering price of $ per share, the estimated midpoint of the estimated price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the net proceeds to us from this offering by $ million, assuming 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. An increase or decrease of 1.0 million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase or decrease, as applicable net proceeds to us from this offering by $ million, assuming no change in the assumed initial public offering price per share, which is the midpoint of the estimated 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. We do not expect that a change in the offering price or the number of shares by these amounts would have a material effect on our intended uses of the net proceeds from this offering, although it may impact the amount of time prior to which we may need to seek additional capital.

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

- approximately $ million to advance the continued development of SEP-786, our lead product candidate from our PTH1R program, and additional molecules targeting PTH1R;
- approximately $ million to advance the development of SEP-631, and additional small molecules within our MRGPRX2 program;
- approximately $ million for other research and development activities, including our TSHR and incretin receptor programs, other new GPCR programs, and continued innovation of our Native Complex Platform™; and
- the remainder to fund working capital and general corporate purposes.

As of June 30, 2024, we had cash and cash equivalents of $ million. Based on our current plans, we believe our existing cash and cash equivalents, together with the net proceeds from this offering, will be sufficient to fund our operations and capital expenditure requirements into .

The 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. 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 completion of this offering or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our research and development, the addition of new programs or changes to plans for existing programs, as well as any collaborations that we may enter into with third parties or strategic opportunities that become available to us, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. We expect the net proceeds from this offering, together with our existing cash and cash equivalents, will not be sufficient for us to advance any of our programs through regulatory approval, and we will need to raise additional capital to complete the development and potential commercialization of any of our programs.

Our management will retain broad discretion in the application of the net proceeds we receive from our initial public offering, and investors will be relying on the judgment of our management regarding the application of the net proceeds.

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

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to fund the development and expansion of our business, and therefore we do not anticipate paying cash dividends on our common stock in the foreseeable future. Any future determination regarding the declaration and payment of dividends, if any, will be at the discretion of our board of directors, subject to applicable laws, and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects, and other factors our board of directors may deem relevant.

In addition, our ability to pay cash dividends on our capital stock in the future may be limited by the terms of any future debt or preferred securities we issue or any credit facilities we enter into.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of June 30, 2024:

- on an actual basis;
- on a pro forma basis to give effect to (i) the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock and the related reclassification of the carrying value of the convertible preferred stock to permanent equity, each of which will occur immediately prior to the completion of this offering, and (ii) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering; and
- on a pro forma as adjusted basis to reflect: (i) the pro forma adjustments set forth above, and (ii) the 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 estimated 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 and pro forma as adjusted information below is illustrative only, and our capitalization following the completion 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 the information in this table together with the sections titled "Prospectus Summary—Summary Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes included elsewhere in this prospectus.

	As of June 30, 2024		
	Actual	Pro Forma	Pro Forma As Adjusted[1]
	(in thousands, except for share and per share data) (unaudited)		
Cash and cash equivalents	$	$	$
Convertible preferred stock, $0.001 par value; shares authorized; shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	$	$	$
Stockholders' equity (deficit):			
Convertible preferred stock, $0.001 par value; no shares authorized, issued or outstanding, actual; shares authorized and no shares issued or outstanding, pro forma and pro forma as adjusted			
Common stock, $0.001 par value; shares authorized, shares issued and outstanding, actual; shares authorized, shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted			
Additional paid-in capital			
Accumulated other comprehensive loss			
Accumulated deficit			
Total stockholders' equity (deficit)			
Total capitalization	$	$	$

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of our 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. Each increase or decrease of 1.0 million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase or decrease, as applicable, the pro forma as adjusted amount of each of our cash and cash equivalents, total stockholders' equity (deficit) and total capitalization 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.

If the underwriters exercise their option to purchase additional shares of our common stock in full, our pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders' equity (deficit), total capitalization, and shares of our common stock outstanding as of June 30, 2024 would be $ million, $ million, $ million, $ million, and shares, respectively.

The number of shares of our common stock issued and outstanding, pro forma and pro forma as adjusted, in the table above is based on shares (which includes shares of unvested restricted common stock subject to repurchase or forfeiture) of our common stock outstanding as of June 30, 2024, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock immediately prior to the completion of this offering, and excludes:

- shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2024 under the 2021 Plan, with a weighted-average exercise price of $ per share;
- shares of our common stock issuable upon the exercise of stock options granted after June 30, 2024 pursuant to the 2021 Plan, with a weighted-average exercise price of $ per share;
- shares of our common stock reserved for issuance under the 2021 Plan as of June 30, 2024, which shares will cease to be available for issuance at the time that the 2024 Plan becomes effective;
- shares of our common stock that will become available for future issuance under the 2024 Plan, which will become effective on the date immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan and any shares underlying outstanding stock awards granted under the 2021 Plan that expire or are repurchased, forfeited, cancelled, or withheld; and
- shares of our common stock reserved for future issuance under the ESPP, which will become effective on the date immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the ESPP.

DILUTION

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

Our historical net tangible book value (deficit) as of June 30, 2024 was $ million, or $ per share of our common stock. Our historical net tangible book deficit per share is the amount of our total tangible assets less our total liabilities and the carrying values of our convertible preferred stock, which is not included within stockholders' deficit. Our historical net tangible book deficit per share represents historical net tangible book deficit divided by the shares (which includes shares of unvested restricted common stock subject to repurchase or forfeiture) of our common stock outstanding as of , 2024.

Our pro forma net tangible book value as of June 30, 2024 was $ million, or $ per share of our common stock. Pro forma net tangible book value represents the amount of our total tangible assets less our total liabilities, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock immediately prior to the completion of this offering. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares outstanding as of June 30, 2024, after giving effect to the pro forma adjustment described above.

After giving further effect to the 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 estimated 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 June 30, 2024 would have been $ million, or $ per share. This amount represents an immediate increase in pro forma as adjusted net tangible book value per share of $ to our existing stockholders and immediate dilution of $ in pro forma as adjusted net tangible book value per share to new investors purchasing shares of our common stock in this offering.

Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the initial public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis (without giving effect to any exercise by the underwriters of their option to purchase additional shares):

Assumed initial public offering price per share		$
Historical net tangible book value (deficit) per share as of June 30, 2024	$	
Pro forma increase in historical net tangible book value per share as of June 30, 2024 attributable to the pro forma adjustments described above		
Pro forma net tangible book value per share as of June 30, 2024		
Increase in pro forma net tangible book value per share attributable to new investors participating in this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors participating in this offering		$

The dilution information discussed above is illustrative only and may change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, our pro forma as adjusted net tangible book value per share after this offering by $, and dilution per share to new

investors purchasing shares of our common stock in this offering by $, assuming that the number of shares of our common stock 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. Each increase of 1.0 million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase our pro forma as adjusted net tangible book value per share after this offering by $ and decrease dilution per share to new investors purchasing shares of our common stock in this offering by $, 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. Each decrease of 1.0 million shares in the number of shares of our common stock offered by us, as set forth on the cover page of this prospectus, would decrease our pro forma as adjusted net tangible book value per share after this offering by $ and increase dilution per share to new investors purchasing shares of our common stock in this offering by $, assuming no change in the assumed initial public offering price and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise in full their option to purchase additional shares, our pro forma as adjusted net tangible book value per share after this offering would be $, representing an immediate increase in pro forma as adjusted net tangible book value per share of $ to existing stockholders and immediate dilution in pro forma as adjusted net tangible book value per share of $ to new investors purchasing common stock in this offering, based on the assumed initial public offering price of $ per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The following table as of June 30, 2024 summarizes on the pro forma as adjusted basis described above, the total number of shares of our common stock purchased from us on an as converted to common stock basis, the total consideration paid or to be paid, and the average price per share paid or to be paid by existing stockholders and by new investors in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. As the table shows, new investors purchasing shares of our common stock in this offering will pay an average price per share substantially higher than our existing stockholders paid.

	Shares Purchased		Total Consideration		Weighted-Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders before this offering		%	$	%	$
Investors participating in this offering					
Total		100.0%	$	100.0%	

The table above assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters' option to purchase additional shares is exercised in full, the number of shares of our common stock held by existing stockholders would be reduced to % of the total number of shares of our common stock outstanding after this offering, and the number of shares of our common stock held by new investors purchasing common stock in this offering would be increased to % of the total number of shares of our common stock outstanding after this offering.

The foregoing tables and calculations (other than the historical net tangible book value calculations) are based on shares (which includes shares of unvested restricted common stock subject to repurchase or forfeiture) of our common stock outstanding as of June 30, 2024, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock immediately prior to the completion of this offering, and excludes:

- shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2024 under the 2021 Plan, with a weighted-average exercise price of $ per share;
- shares of our common stock issuable upon the exercise of stock options granted after June 30, 2024 pursuant to the 2021 Plan, with a weighted-average exercise price of $ per share;
- shares of our common stock reserved for issuance under the 2021 Plan as of June 30, 2024, which shares will cease to be available for issuance at the time that the 2024 Plan becomes effective;
- shares of our common stock that will become available for future issuance under the 2024 Plan, which will become effective on the date immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the 2024 Plan and any shares underlying outstanding stock awards granted under the 2021 Plan that expire or are repurchased, forfeited, cancelled, or withheld; and
- shares of our common stock reserved for future issuance under the ESPP, which will become effective on the date immediately prior to the effectiveness of the registration statement of which this prospectus forms a part, as well as any automatic increases in the number of shares of our common stock reserved for future issuance under the ESPP.

To the extent that new stock options or other equity awards are issued or any outstanding stock options are exercised, or we issue additional shares of our common stock in the future, there will be further dilution to new investors. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

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

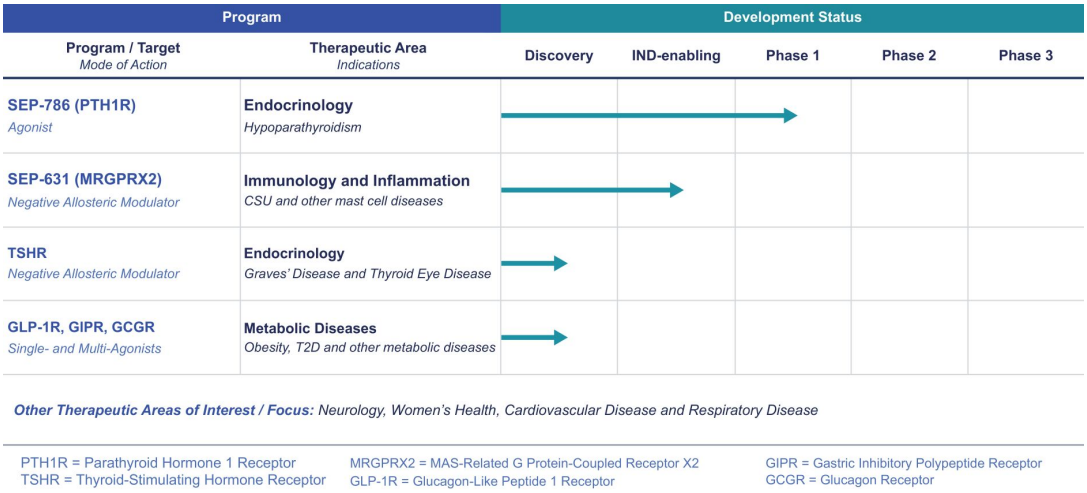
You should read the following discussion and analysis of our financial condition and results of operations together the section titled "Prospectus Summary—Summary Financial Data" and our audited financial statements and related notes included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements based upon current beliefs, plans, and expectations related to future events and our future financial performance that involve risks, uncertainties and assumptions, such as statements of our plans, objectives, expectations, intentions, forecasts and projections. Our actual results and the timing of selected events could differ materially from those discussed in these forward-looking statements as a result of several factors including, but not limited to, those set forth under the section titled "Risk Factors" and elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected for any period in the future, and you should carefully read the section titled "Risk Factors" to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements. Please also see the section titled "Special Note Regarding Forward-Looking Statements."

Overview

We are a clinical-stage biotechnology company pioneering a new era of GPCR oral small molecule drug discovery powered by our proprietary Native Complex Platform™. Our industrial-scale platform aims to unlock the full potential of GPCR therapies and has led to the discovery and development of our deep pipeline of product candidates focused initially on treating patients in three therapeutic areas: endocrinology, immunology and inflammation, and metabolic diseases.

Our proprietary Native Complex Platform™ replicates the natural structure, function, and dynamics of GPCRs outside of cells at an industrial scale for, as we believe it, the first time. Our foundational technologies enable us to isolate, purify, and reconstitute full-length, properly folded GPCR proteins within ternary complexes with ligands and transducer proteins in a lipid bilayer that mimics the cell membrane. We then apply state-of-the-art discovery tools and technologies to these defined and tunable protein complexes to structurally design, screen for, and optimize potential product candidates. Leveraging our platform, we have transformed GPCR oral small molecule drug discovery to an industrialized and iterative structure-based drug design approach to expand the landscape of druggable GPCR targets with novel oral small molecule medicines for patients. Our Native Complex Platform™ is designed to enable us to target certain GPCRs for the first time, uncover novel binding pockets for validated receptors, and pursue a wide spectrum of pharmacologies, including agonists, antagonists, and allosteric modulators, to affect GPCR signaling in different ways to achieve desired therapeutic effects.

We are advancing a deep portfolio of oral small molecule GPCR-targeted programs with novel mechanistic approaches to treat diseases across multiple therapeutic areas for patients with significant unmet needs. Our wholly-owned pipeline is summarized in the figure below.



Our lead product candidate, SEP-786, is, to our knowledge, the only clinical-stage, oral small molecule agonist targeting the Parathyroid Hormone 1 Receptor (PTH1R) for the treatment of hypoparathyroidism. We believe our team, scientific and technical advisors, and our proprietary Native Complex Platform™ uniquely positions us to become the leading GPCR-focused biotechnology company.

We were incorporated in Delaware in December 2019 under the name GPCR NewCo, Inc. In June 2021, we changed our name to Septerna, Inc. We are headquartered in South San Francisco, California.

We have incurred significant operating losses since our inception, except for the year ended December 31, 2023. Our revenue to date has been generated solely from research services. Since our founding, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, developing our proprietary and structure-based drug discovery platform, identifying and discovering our product candidates, establishing our intellectual property portfolio, conducting research and preclinical studies, including IND-enabling studies, initiating and conducting clinical trials, establishing arrangements with third parties for the manufacture of our product candidates and related raw materials, and providing general and administrative support for these operations. We have not had any products approved for sale and have not generated any revenue from product sales. Further, we do not expect to generate revenue from product sales until such time, if ever, that we are able to successfully complete the development and obtain marketing approval for one or more of our product candidates. Our ability to generate product revenue will depend on the successful development and eventual commercialization of one or more of our product candidates. We have incurred net losses in each year since inception except for the year ended December 31, 2023. During the year ended December 31, 2023, we recorded a gain on sale of non-financial asset of $47.6 million for the sale of an in-progress research and development (IPR&D) asset related to a GPCR program and $0.2 million in revenue related to research services resulting in net income of $4.2 million for the year then-ended compared to net loss of $27.7 million for the year ended December 31, 2022. Of the $47.6 million gain on sale of non-financial asset, $25.0 million was received in cash in September 2023 and $22.6 million was received in the first half of 2024. As of December 31, 2023, we had an accumulated deficit of $46.6 million. We expect to continue to incur net losses for the foreseeable future. Our net losses may fluctuate significantly from period to period, depending on the timing and expenditures of our operational activities.

We expect to continue to incur significant and increasing net operating losses for the next several years as we:

- continue to advance our product candidates through preclinical studies and into clinical trials;
- attract, hire and retain additional personnel;

- operate as a public company, including expenses related to compliance with the rules and regulations of the SEC and those of any national securities exchange on which our securities are traded, legal, auditing, additional insurance expenses, investor relations activities, and other administrative and professional services;
- continue our research and development efforts and expand our pipeline of product candidates;
- acquire, discover, validate, and develop additional product candidates;
- require the manufacture of supplies for our preclinical studies and clinical trials;
- obtain, maintain, expand, and protect our intellectual property portfolio;
- implement operational, financial and information management systems;
- make royalty, milestone or other payments under any future, license or collaboration agreements;
- potentially seek to identify, assess, acquire, or in-license or develop new technologies or additional product candidates;
- potentially experience any delays, challenges, or other issues associated with the clinical development of our product candidates, including with respect to our regulatory strategies;
- pursue regulatory approval of product candidates that successfully complete clinical trials; and
- establish a sales, marketing and distribution infrastructure to commercialize any product candidate for which we may obtain marketing approval and related commercial manufacturing build-out.

Our net losses may fluctuate significantly from period to period, depending upon the timing of our expenditures on research and development activities. Cash used to fund operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in our accounts payable and accrued research and development and other current liabilities in the statement of cash flows in our audited financial statements included elsewhere in this prospectus.

As a result, we will require substantial additional funding to further develop our product candidates and support our continuing operations. Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, existing stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect existing stockholders' rights as common stockholders. Debt financing and 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 acquisitions or capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution 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 or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, 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.

We have historically financed our operations primarily through the issuances of convertible promissory notes and convertible preferred stock. In November 2021, we entered into a total of $100.0 million of Series A convertible preferred stock financing which was divided into two tranches. The initial tranche was completed in November 2021 for net proceeds of $44.7 million, of which $30.0 million was received in cash, net of issuance costs, and $14.7 million was for the conversion of the then outstanding convertible promissory notes plus accrued interest. In November 2022, we executed the second tranche for net cash proceeds of $30.0 million. The Series A

convertible preferred stock agreement was subsequently amended to cancel the remaining 25.0 million unissued shares of Series A convertible preferred stock in June 2023, upon entering into the Series B convertible preferred stock financing. In June 2023, we entered into a total of $150.0 million of Series B convertible preferred stock financing, which was divided into two tranches of equal amounts. The first tranche, which was the issuance of $75.0 million of Series B convertible preferred stock, was completed in July 2023 for net proceeds of $74.5 million. The second tranche, which was for the issuance of the remaining $75.0 million, was completed in May 2024 for net proceeds of $74.9 million. Since our inception, we have devoted substantially all of our resources to raising capital, organizing and staffing our company, business and scientific planning, conducting discovery and research and development activities, establishing and protecting our intellectual property portfolio, developing and progressing our product candidates and preparing for clinical trials, establishing arrangements with third parties for the manufacture of our product candidates and component materials, engaging in collaboration activities, and providing general and administrative support for these operations. Based on our current plans, we believe our existing cash and cash equivalents, together with the net proceeds from this offering, will be sufficient to fund our operations and capital expenditure requirements into . See the subsection titled "—Liquidity and Capital Resources" below.

We use contract research and development organizations to conduct our preclinical works and clinical trials. Additionally, we utilize third-party contract manufacturing organizations (CMOs), to manufacture and supply our preclinical materials during the development of our product candidates. We expect to use similar contract resources for the commercialization of our products, at least until our resources and operations are at a scale that justifies investment in internal manufacturing capabilities.

Vertex Asset Purchase and Service Agreements

Asset Purchase Agreement

In September 2023, we entered into an asset purchase agreement with Vertex Pharmaceuticals Incorporated (Vertex) for a total of $47.6 million under which Vertex acquired all of our IPR&D asset related to a GPCR program, including all intellectual property, materials, and compounds associated with the program (Vertex purchase agreement). Of the $47.6 million, $25.0 million was received in cash in September 2023 and $22.6 million was received in the first half of 2024. Additionally, as part of the agreement, Vertex assumed all claims, counterclaims and credits associated with the program, and we gave up all rights to the intellectual property. The transfer of the IPR&D asset to Vertex was completed in November 2023.

At the same time in September 2023, we entered into a research service agreement with Vertex under which we agreed to perform certain exploratory research activities for Vertex. See the subsection titled "—Service Agreement" below.

The Vertex purchase agreement also provides for a potential milestone payment payable to us contingent upon achievement of a certain research milestone. The milestone payment amount is determined based on the timing of achievement of the research milestone. The variable consideration related to this milestone payment was determined to be improbable of receipt at this time. As a result, the milestone payment was excluded from the transaction price. After the potential milestone payment, we will not receive any other payments or future royalties related to this IPR&D asset.

Service Agreement

In addition to the Vertex purchase agreement, we also entered into a research service agreement with Vertex (Vertex service agreement) under which we agreed to perform certain exploratory research activities for Vertex. The Vertex service agreement is for a two-year term, however, Vertex has the ability to terminate the agreement with a 30-day notice at any time. As a result, we concluded that the contract duration is 30 days, representing a month-to-month service contract. We recognize revenue associated with the Vertex service agreement over the performance period of the research services as the services are provided.

Components of Results of Operations

Revenue

We have not generated any revenue from product sales and do not expect to do so in the foreseeable future. Our ability to generate product revenue, if ever, will depend on the successful development and eventual commercialization of any product candidates that we identify. If we fail to complete the development of any future product candidates in a timely manner or to obtain regulatory approval for such product candidates, our ability to generate future revenue and our results of operations and financial position would be materially adversely affected. Our revenues to date have been exclusively related to research services. We recognize revenue as specified research services are performed and the results of the research and development services are provided to the customer.

Operating Expenses

Our operating expenses consist of (i) research and development expenses and (ii) general and administrative expenses.

Research and Development

Research and development expenses account for the largest component of our total operating expenses. Research and development expenses consist primarily of direct and unallocated costs incurred for the research and development of our product candidates.

Our research and development expenses consist of:

- direct costs, including:
  - external research and development costs related to (i) the production of preclinical materials, including fees and milestones paid to contract manufacturers and (ii) agreements with contract development organizations, consultants and other third-party contract organizations to conduct our preclinical studies and other research and development activities on our behalf; and
  - costs incurred in connection with laboratory operations, materials and supplies, and other preclinical studies.
- unallocated costs, including:
  - employee-related costs, including salaries, benefits and stock-based compensation for employees engaged in research and development activities;
  - external research and development costs, including contract research and development and professional service fees for consulting and related services;
  - facility-related and office costs, including lease/rent, building-related expenses, facility-related overhead, and depreciation expense; and
  - other costs, including expenses related to our funded, sponsored research activities and technology licenses, laboratory operations, information technology (IT)-related expenses.

We expense all research and development costs in the periods in which they are incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors and third-party service providers.

A significant portion of our research and development costs have been external costs, which we track by stage of development. However, we do not track our unallocated costs on a program specific basis because these costs are deployed across multiple projects and, as such, are not separately classified.

At this time, we cannot reasonably estimate or know the nature, timing, and estimated costs of the efforts that will be necessary to complete the development of, and obtain regulatory approval for, any of our product candidates. We expect that our research and development expenses will increase substantially in absolute dollars for the foreseeable future as we continue to invest in research and development activities related to developing our product candidates, as our product candidates advance into later stages of development, as we begin to conduct clinical trials, as we seek regulatory approvals for any product candidates that successfully complete clinical trials, and as we incur expenses associated with hiring additional personnel to support our research and development efforts. The process of conducting the necessary clinical research to obtain regulatory approval is costly and time-consuming, and the successful development of our product candidates is highly uncertain. This is due to the numerous risks and uncertainties associated with developing product candidates, many of which are outside of our control, including the uncertainty of:

- the timing and progress of preclinical and clinical development activities;
- the number and scope of preclinical and clinical programs we decide to pursue;
- our ability to maintain our current research and development programs and to establish new ones;
- establishing an appropriate safety profile with IND-enabling studies;
- the number of sites and patients included in the clinical trials;
- the countries in which the clinical trials are conducted;
- per patient trial costs;
- successful patient enrollment in, and the initiation of, clinical trials, as well as drop out or discontinuation rates;
- the successful completion of clinical trials with safety, tolerability and efficacy profiles that are satisfactory to the FDA, EMA, or any other comparable foreign regulatory authorities;
- the number of trials required for regulatory approval;
- the timing, receipt and terms of any regulatory approvals from applicable regulatory authorities;
- our ability to establish collaboration arrangements;
- the performance of any future collaborators;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- significant and changing government regulation and regulatory guidance;
- the impact of any business interruptions to our operations or to those of the third parties with whom we work;
- obtaining, maintaining, defending and enforcing patent claims and other intellectual property rights;
- launching commercial sales of our product candidates, if approved, whether alone or in collaboration with others; and
- maintaining a continued acceptable safety profile of the product candidates following approval.

Any changes in the outcome of any of these variables could mean a significant change in the costs and timing associated with the development of our product candidates. For example, if the FDA, EMA or any other comparable foreign regulatory authority were to require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in our clinical trials due to patient enrollment or other reasons, we would be required to expend significant additional financial resources and time on the completion of clinical development. We may never obtain regulatory approval for any of our product candidates.

General and Administrative

General and administrative expenses consist primarily of personnel-related costs, costs related to maintenance and filing of intellectual property, legal fees related to corporate matters, professional fees paid for accounting, auditing, consulting, tax and investor relations services, insurance costs, general corporate expenses, and IT-related and facility-related costs not otherwise included in research and development expenses. Personnel-related costs include salaries, benefits, and stock-based compensation for our personnel in executive, legal, finance and accounting, human resources, and other administrative functions.

We expect that our general and administrative expenses will increase substantially in absolute dollars for the foreseeable future as we continue to increase our headcount to support our business growth. We also anticipate that we will incur increased expenses as a result of our preparation of becoming and, ultimately, operating as a public company, including expenses related to compliance with the rules and regulations of the SEC and expenses related to audit, legal, regulatory services associated with maintaining compliance with exchange listing and SEC requirements, director and officer insurance premiums and investor relations costs.

Other Income, Net

Interest Income

Interest income consists of interest earned on our cash and cash equivalents during the period.

Other Income, Net

Other income, net consists primarily of changes in the fair value of our cash equivalents, partially offset by loss on disposal of our fixed assets.

Provision for Income Taxes

We are subject to corporate United States federal and state income taxation. As of December 31, 2023, we had $14.6 million of federal NOL carryforwards and $28.9 million of state NOL carryforwards, available to reduce future taxable income. Of the federal NOL carryforwards, $14.6 million will carryforward indefinitely. The state NOL carryforwards will begin to expire in 2041, if not utilized.

Section 382 of the Code (Section 382) places a limitation, referred to as the Section 382 limitation, on the amount of taxable income that can be offset by NOL carryforwards after a change in control (generally greater than 50% change in ownership) of a loss corporation. California has similar rules. When an ownership change occurs, Section 382 limits the use of NOLs and credits in subsequent periods based on the annual 382 limitations. The annual 382 limitations may limit the full use of available tax attributes in one year but the identified ownership changes may not result in expiration of tax attributes for use prior to expiration of their respective carryforward periods. We establish a valuation allowance against all of our net deferred tax assets. We consider all available evidence, both positive and negative, including but not limited to our historical operating results, income or loss in recent periods, cumulative losses in recent years, forecasted earnings, future taxable income, and significant risk and uncertainty related to forecasts, and concluded the deferred tax assets are not more likely than not to be realized.

Additionally, we had federal and state research and development tax credits carryforwards of $2.0 million and $1.8 million, respectively, as of December 31, 2023 available to reduce future income taxes. The federal research and development tax credits will begin to expire in 2041 if not utilized. The state research and development tax credits have no expiration date.

We record liabilities related to uncertain tax positions in accordance with the guidance that clarifies the accounting for uncertainty in income taxes recognized in an enterprise’s financial statements by prescribing a minimum recognition threshold and measurement attribute for purposes of financial statement recognition and

measurement of a tax position taken or expected to be taken in a tax return. As of December 31, 2022 and 2023, we had unrecognized tax benefits of $1.8 million and $2.5 million, respectively, all of which would affect our income tax expense if recognized, before consideration of our valuation allowance.

Results of Operations

Comparison of the Years Ended December 31, 2022 and 2023

Our results of operations for each of the periods indicated are summarized in the table below (in thousands):

	Years Ended December 31,		
	2022	2023	Change
Revenue	$ —	$ 151	$ 151
Operating expenses (income):			
Research and development	22,044	35,979	13,935
General and administrative	5,923	9,722	3,799
Gain on sale of non-financial asset	—	(47,625)	(47,625)
Total operating expenses (income)	27,967	(1,924)	(29,891)
(Loss) income from operations	(27,967)	2,075	30,042
Other income, net:			
Interest income	291	2,786	2,495
Other income, net	—	10	10
Total other income, net	291	2,796	2,505
(Loss) income before provision for income taxes	(27,676)	4,871	32,547
Provision for income taxes	—	691	691
Net (loss) income	$ (27,676)	$ 4,180	$ 31,856

Revenue

Our revenue of $0.2 million for the year ended December 31, 2023 was generated from the services provided to Vertex while no revenue was recorded for the year ended December 31, 2022.

Operating Expenses (Income)

Research and Development

The following table summarizes our research and development expenses for the periods indicated by direct and unallocated costs (in thousands):

	Years Ended December 31,		
	2022	2023	Change
Direct costs:			
PTH1R	$ 1,333	$ 4,334	$ 3,001
MRGPRX2	620	1,981	1,361
TSHR	1,315	1,654	339
Other programs	2,540	1,824	(716)
Unallocated costs:			
Employee-related costs	8,071	12,490	4,419
External research and development costs	2,575	5,313	2,738
Facility-related and office costs	1,661	3,181	1,520
Other costs	3,929	5,202	1,273
Total research and development expense	$ 22,044	$ 35,979	$13,935

Research and development expense was $22.0 million and $36.0 million for the years ended December 31, 2022 and 2023, respectively. The increase was primarily due to (i) $4.0 million of higher direct costs attributable to our preclinical programs, (ii) $4.4 million of higher employee-related costs as a result of increased headcount, (iii) $2.7 million of higher expenses associated with external research and development costs, and (iv) $1.5 million of higher facility-related and office costs as we continue to expand our office space to accommodate higher occupancy and larger operational activities.

General and Administrative

General and administrative expenses were $5.9 million and $9.7 million for the years ended December 31, 2022 and 2023, respectively. The increase was primarily due to (i) $2.2 million of higher employee-related costs a result of increased headcount, (ii) $0.9 million of higher legal fees, and (iii) $0.8 million of higher consulting expenses.

Gain on Sale of Non-Financial Asset

Gain on sale of non-financial asset of $47.6 million was attributable to the sale of our IPR&D asset related to a GPCR program to Vertex during the year ended December 31, 2023. No gain on sale of non-financial asset was recorded during the year ended December 31, 2022.

Other Income, Net

Interest Income

Interest income was $0.3 million and $2.8 million for the years ended December 31, 2022 and 2023, respectively. The increase was due to higher interest rates and higher balances of our cash and cash equivalents.

Other Income, Net

For the year ended December 31, 2023, our other income and expense was immaterial. For the year ended December 31, 2022, we did not record other income or expense.

Provision for Income Taxes

Provision for income taxes of $0.7 million for the year ended December 31, 2023 was primarily due to the gain on sale of non-financial asset, which resulted in net income.

Liquidity and Capital Resources

Sources of Liquidity

We have incurred significant operating losses for each year since our inception, except for the year ended December 31, 2023. Our revenue to date has been generated solely from research services. Since our founding, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, developing our proprietary and structure-based drug discovery platform, identifying and discovering our product candidates, establishing our intellectual property portfolio, conducting research and preclinical studies, including IND-enabling studies, initiating and conducting clinical trials, establishing arrangements with third parties for the manufacture of our product candidates and related raw materials, and providing general and administrative support for these operations. We have not had any products approved for sale and have not generated any revenue from product sales. Further, we do not expect to generate revenue from product sales until such time, if ever, that we are able to successfully complete the development and obtain marketing approval for one or more of our product candidates. Our ability to generate product revenue will depend on the successful development and eventual commercialization of one or more of our product candidates.

We have incurred net losses in each year since inception except for the year ended December 31, 2023. During the year ended December 31, 2023, we recorded a gain on sale of non-financial asset of $47.6 million for the sale of an IPR&D asset related to a GPCR program and $0.2 million in revenue related to research services resulting in net income of $4.2 million for the year then-ended compared to net loss of $27.7 million for the year ended December 31, 2022. Of the $47.6 million gain on sale of non-financial asset, $25.0 million was received in cash in September 2023 and $22.6 million was received in the first half of 2024. We expect to incur substantial expenses as we operate as a public company, advance our product candidates into clinical development, undergo the regulatory approval process, engage in other research and development activities to expand our pipeline of product candidates, expand our operations and headcount, maintain and expand our intellectual property portfolio and, if we obtain approval for one or more of our product candidates, launch commercial activities. Specifically, in the near term we expect to incur substantial expenses relating to initiating and completing our clinical trials and our other product development activities. Furthermore, upon the completion of this offering, we expect to incur incremental costs associated with operating as a public company, including significant legal, accounting, investor relations, director and officer insurance and other expenses. As of December 31, 2023, we had an accumulated deficit of $46.6 million. We expect to continue to incur net losses for the foreseeable future.

We have historically financed our operations primarily through the issuances of convertible promissory notes and convertible preferred stock. In November 2021, we entered into a total of $100.0 million of Series A convertible preferred stock financing which was divided into two tranches. The initial tranche was completed in November 2021 for net proceeds of $44.7 million, of which $30.0 million was received in cash, net of issuance costs, and $14.7 million was for the conversion of the then outstanding convertible promissory notes plus accrued interest. In November 2022, we executed the second tranche for net cash proceeds of $30.0 million. The Series A convertible preferred stock agreement was subsequently amended to cancel the remaining 25.0 million unissued shares of Series A convertible preferred stock in June 2023, upon entering into the Series B convertible preferred stock financing. In June 2023, we entered into a total of $150.0 million of Series B convertible preferred stock financing, which was divided into two tranches of equal amounts. The first tranche, which was the issuance of $75.0 million of Series B convertible preferred stock, was completed in July 2023 for net proceeds of $74.5 million. The second tranche, which was for the issuance of the remaining $75.0 million, was completed in May 2024 for net proceeds of $74.9 million. During the year ended December 31, 2023, we recorded a gain on sale of non-financial asset of $47.6 million for the sale of an IPR&D asset related to a GPCR program and $0.2 million in revenue related to research services resulting in net income of $4.2 million for the year then-ended compared to net loss of $27.7 million for the year ended December 31, 2022. Of the $47.6 million gain on sale of non-financial asset, $25.0 million was received in cash at the closing of the Vertex purchase agreement in September 2023 and $22.6 million was received in the first half of 2024.

Cash Flows

The following table summarizes our cash flows for the periods indicated (in thousands):

	Years Ended December 31,	
	2022	2023
Net cash used in operating activities	$(23,303)	$(38,723)
Net cash (used in) provided by investing activities	(1,289)	22,122
Net cash provided by financing activities	30,051	74,520
Net increase in cash, cash equivalents and restricted cash	$ 5,459	$ 57,919

Net Cash Used in Operating Activities

Net cash used in operating activities was $23.3 million and $38.7 million for the years ended December 31, 2022 and 2023, respectively. The net cash used in operating activities for the year ended December 31, 2022 was

due to our net loss of $27.7 million, partially offset by $2.6 million of non-cash charges for depreciation and amortization, stock-based compensation and non-cash operating lease expense, and $1.7 million of net change in operating assets and liabilities. The net cash used in operating activities for the year ended December 31, 2023 was due to $47.6 million of non-cash adjustment related to gain on sale of non-financial asset, partially offset by (i) our net income of $4.2 million, (ii) $3.8 million of non-cash charges for depreciation and amortization, stock-based compensation, non-cash operating lease expense and deferred income tax, and (iii) $0.9 million of net change in operating assets and liabilities.

Net Cash (Used in) Provided by Investing Activities

Net cash used in investing activities of $1.3 million for the year ended December 31, 2022 was attributable to purchases of property and equipment.

Net cash provided by investing activities of $22.1 million for the year ended December 31, 2023 was due to $25.0 million proceeds from the sale of non-financial asset, partially offset by $2.9 million of purchases of property and equipment.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was $30.1 million and $74.5 million for the years ended December 31, 2022 and 2023, respectively. Net cash provided by financing activities for the year ended December 31, 2022 was primarily due to net proceeds from the sale and issuance of our Series A convertible preferred stock. Net cash provided by financing activities for the year ended December 31, 2023 was primarily due to net proceeds from the sale and issuance of our Series B convertible preferred stock.

Future Funding Requirements

Our primary use of cash is to fund our operations, primarily research and development expenditures. Cash used for operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in our outstanding accounts payable, accrued expenses and prepaid expenses.

Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amount of our operating capital requirements. Our future funding requirements will depend on many factors, including, but not limited to:

- the scope, timing, progress and results of discovery, preclinical development, laboratory testing and clinical trials for our product candidates;
- the expenses of manufacturing our product candidates for clinical trials and in preparation for marketing approval and commercialization;
- the extent to which we enter into collaborations or other arrangements with additional third parties in order to further develop our product candidates;
- the expenses of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- the expenses and fees associated with the discovery, acquisition or in-license of additional product candidates or technologies;
- our ability to establish additional collaborations on favorable terms, if at all;
- the expenses required to scale up our clinical, regulatory and manufacturing capabilities;
- the expenses of future commercialization activities, if any, including establishing sales, marketing, manufacturing and distribution capabilities, for any of our product candidates for which we receive marketing approval; and

- revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval.

We will need additional funds to meet operational needs and capital requirements for clinical trials, other research and development expenditures, and business development activities. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical studies.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, existing stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect existing stockholders' rights as common stockholders. Debt financing and 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 acquisitions or capital expenditures or declaring dividends. If we raise additional funds through collaborations, strategic alliances or marketing, distribution 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 or other arrangements when needed, we may be required to delay, limit, reduce or terminate our research, 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.

We have historically financed our operations primarily through the issuances of convertible promissory notes and convertible preferred stock. In June 2023, we entered into a total of $150.0 million of Series B convertible preferred stock financing, which is divided into two tranches of equal amounts. The first tranche, which was the issuance of $75.0 million of Series B convertible preferred stock, was completed in July 2023 for net proceeds of $74.5 million. The second tranche, which was the issuance of the remaining $75.0 million, was completed in May 2024 for net proceeds of $74.9 million. Since our inception, we have devoted substantially all of our resources to raising capital, organizing and staffing our company, business and scientific planning, conducting discovery and research and development activities, establishing, maintaining, and protecting our intellectual property portfolio, developing and progressing our product candidates and preparing for clinical trials, establishing arrangements with third parties for the manufacture of our product candidates and component materials, engaging in collaboration activities, and providing general and administrative support for these operations.

Based on our current plans, we believe our existing cash and cash equivalents, together with the net proceeds from this offering, will be sufficient to fund our operations and capital expenditure requirements into .

Contractual Obligations and Other Commitments

The following table summarizes our future cash outflows for contractual obligations as of December 31, 2023 (in thousands):

	Payments Due by Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Operating lease obligations, including interest	$39,156	$ 1,913	$ 9,081	$ 9,672	$ 18,490

We lease certain office space in South San Francisco under a lease that expires in July 2032. See Note 6 to our audited financial statements included elsewhere in this prospectus for more information on our lease obligations.

We enter into contracts in the normal course of business for contract research services, contract manufacturing services, professional services and other services and products for operating purposes. These contracts generally provide for termination after a notice period, and, therefore, are cancelable contracts and not included in the table above.

Off-Balance Sheet Arrangements

During the periods presented we did not have, nor do we currently have, any off-balance sheet arrangements as defined under SEC rules and regulations or any holdings in variable interest entities.

Critical Accounting Estimates, Significant Judgments and Use of Estimates

Management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States (U.S. GAAP). The preparation of these 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 financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on 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 that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions and any such differences may be material. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

Revenue Recognition

We generated revenue for the year ended December 31, 2023 from service revenue for research activities performed related to an agreement with Vertex. We consider revenue to be earned when all of the following criteria are met: (i) we have a contract with a customer that creates enforceable rights and obligations; (ii) promised products or services are identified; (iii) the transaction price, or the amount we expect to receive, including an estimate of uncertain amounts subject to a constraint to ensure revenue is not recognized in an amount that would result in a significant reversal upon resolution of the uncertainty, is determinable; (iv) and we have transferred control of the promised items to the customer. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in the contract. The transaction price for the contract is measured as the amount of consideration we expect to receive in exchange for the goods and services expected to be transferred. When a contract contains variable consideration and the variable consideration is constrained to the extent that it is not probable that it will be received, it is excluded from the transaction price. A contract's transaction price is allocated to each distinct performance obligation on a relative standalone selling price basis and recognized as revenue when, or as, control of the distinct good or service is transferred.

Stock-Based Compensation

Stock-based compensation is measured based on the estimated grant date fair value of the award and is recognized as expense on a straight-line basis over the requisite service period (usually the vesting period). Forfeitures are accounted for in the period in which they occur.

In determining the fair value of the options granted, we use the Black Scholes option pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

Fair Value of Common Stock — See the subsection titled "—Fair Value of Common Stock" below.

Expected Term — The expected term represents the period that our stock options granted are expected to be outstanding and is determined using the simplified method (based on the mid-point between the vesting date and the end of the contractual term). We have very limited historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for our stock option grants. We will continue to apply this process until a sufficient amount of historical information regarding employee exercise patterns and post-vesting employment termination behavior becomes available.

Expected Volatility — Since we are not a public company and have no trading history for our common stock, the expected volatility was estimated based on the average volatility for comparable publicly traded biopharmaceutical companies over a period, where available, equal to the expected term of the stock option grants. The comparable companies were chosen based on their similar size, life cycle stage and area of specialty.

Risk-free Interest Rate — The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of the options.

Expected Dividend — We have never paid dividends on our common stock and have no plans to pay dividends on our common stock. Therefore, we used an expected dividend yield of zero.

We recorded stock-based compensation of $1.5 million and $1.6 million for the years ended December 31, 2022 and 2023, respectively. As of December 31, 2023, total unrecognized stock-based compensation expense related to unvested restricted stock awards and unvested stock options was $5.2 million, which is expected to be recognized over a weighted-average period of 2.9 years. As of December 31, 2023, total unrecognized stock-based compensation expense related to unvested restricted stock awards subject to performance conditions, which were improbable of achievement, was $0.3 million.

The intrinsic value of all outstanding incentive awards as of June 30, 2024 was $ million based on the assumed initial public offering price of $ per share (the midpoint of the estimated price range set forth on the cover page of this prospectus), of which $ million was related to vested stock options and $ million was related to unvested stock options and restricted stock.

Fair Value of Common Stock

Historically, for all periods prior to this offering, the grant-date fair market value of our common stock underlying stock options has historically been determined by our board of directors with assistance of unrelated third-party valuation specialists. Because there has been no public market for our common stock, our board of directors have exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair market value, which include important developments in our operations, the prices at which we sold shares of our convertible preferred stock, the rights, preferences and privileges of our convertible preferred stock relative to those of common stock, actual operating results, financial performance, external market conditions in the life sciences industry, general U.S. market conditions, equity market conditions of comparable public companies, and the lack of marketability of our common stock. Given the absence of a public trading market for our common stock, our board of directors exercised reasonable judgment and considered a number of objective and subjective factors to determine the best estimate of the fair value of our common stock, including: our stage of development and material risks related to our business; the progress of our research and development programs; sales of our preferred stock; the rights, preferences and privileges of our convertible preferred stock relative to those of our common stock; the lack of marketability of our securities; our financial condition and operating results, including our levels of available capital resources; the likelihood of achieving a liquidity event such as an initial public offering in light of prevailing market conditions; equity market conditions affecting comparable public companies; the trends, developments and conditions in the life sciences and biotechnology industry sectors; and general U.S. market and economic conditions. Valuations of our common stock were prepared by an unrelated third-party valuation firm in accordance with the guidance provided by the American Institute of Certified Public Accountants 2013 Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*, referred to as the "Practice Aid."

In accordance with the Practice Aid, prior to April 2024, the fair value of our common stock was determined using the Option Pricing Method (OPM) method as we determined the OPM method was the most appropriate method to utilize based on our stage of development and other relevant factors. The OPM uses the preferred stockholders' liquidation preferences, participation rights, dividend policy, and conversion rights to determine how proceeds from a liquidity event shall be distributed among the various ownership classes at a future date. Starting April 2024, in accordance with the Practice Aid, we determined the hybrid probability-weighted expected return method (PWERM) method was the most appropriate method for determining the fair value of our common stock based on our stage of development and other relevant factors. The hybrid PWERM is a scenario-based methodology that estimates the fair value of common stock based upon an analysis of future values for the company, assuming various outcomes with one of those outcomes incorporating the OPM method.

After the equity value was determined and allocated to the various classes of equity securities, a discount for lack of marketability (DLOM) was applied to arrive at the fair value of common stock on a non-marketable basis.

A DLOM is applied based on the theory that as an owner of a private company stock, the holder has limited information and opportunities to sell the stock. A market participant that would purchase this stock would recognize this risk and thereby require a higher rate of return, which would reduce the overall fair market value.

The assumptions underlying these valuations represented management's best estimates, which involved inherent uncertainties and the application of management's judgment. As a result, if we had used significantly different assumptions or estimates, the fair value of our common stock and our stock-based compensation expense could have been materially different.

Once a public trading market for our common stock has been established in connection with the completion 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 granted stock options and other such awards we may grant, as the fair value of our common stock will be determined based on the quoted market price of our common stock.

Research and Development Costs

Research and development costs are expensed as incurred. Research and development expenses consist primarily of employee-related costs, including salaries, benefits, and stock-based compensation for employees engaged in research and development activities, costs related to research activities, preclinical studies, production of preclinical materials, IT-related costs, allocated overhead costs including facility-related expenses, contract manufacturing, consulting fees, costs related to laboratory operations, and fees paid to other entities that conduct certain research and development activities on our behalf. Payments made prior to the receipt of goods and services to be used in research and development are deferred and recognized as expense in the period in which the related goods are received or services are rendered.

We have entered into various agreements with outsourced contract manufacturing and development vendors. We estimate accrued research and development expenses as of each balance sheet date based on facts and circumstances known at that time. We periodically confirm the accuracy of our estimates with internal management personnel and external service providers, and makes adjustments, if necessary. Research and development accruals are estimated based on the level of services performed, progress of the studies, including the phase or completion of events, and contracted costs. The estimated costs of research and development services provided, but not yet invoiced, are included in accrued expenses on the balance sheets. If the actual timing of the performance of services or the level of effort varies from the original estimates, we will adjust the accrual accordingly. Payments made under these arrangements in advance of the performance of the related services are recorded as prepaid expenses and other current assets until the services are rendered.

Recent Accounting Pronouncements

See Note 2 to our audited financial statements included elsewhere in this prospectus for more information.

Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities. The primary objective of our investment activities is to preserve capital to fund our operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain a portfolio of investments in a variety of securities of high credit quality and short-term duration, invested in compliance with our policy.

We had cash and cash equivalents of $30.6 million and $88.5 million as of December 31, 2022 and 2023, respectively, which consisted primarily of bank deposits and money market funds. Such interest-earning instruments carry a degree of interest rate risk; however, historical fluctuations in interest income have not been significant for us. Due to the short-term maturities of our cash equivalents, we believe that a hypothetical 100 basis point increase or decrease in interest rates during any of the periods presented would not have had a material effect on our financial statements included elsewhere in this prospectus.

Foreign Currency Exchange Risk

All of our employees and our operations are currently located in the United States and our expenses are generally denominated in U.S. dollars. However, we do use research and development vendors outside of the United States. As such, our expenses are denominated in both U.S. dollars and foreign currencies. Therefore, our operations are and will continue to be subject to fluctuations in foreign currency exchange rates. To date, foreign currency transaction gains and losses have not been material to our financial statements. We believe that a hypothetical 100 basis point increase or decrease in exchange rates during any of the periods presented would not have had a material effect on our financial statements included elsewhere in this prospectus.

Effects of Inflation

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We believe that inflation has not had a material effect on our financial statements included elsewhere in this prospectus.

Emerging Grown Company Status and Smaller Reporting Company Status

We qualify as “emerging growth company” under the JOBS Act, which permits us to take advantage of an extended transition period to comply with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of accounting standards that have different effective dates for public and private companies until those standards would otherwise apply to private companies. We have elected to use this extended transition period under the JOBS Act 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. We could be an emerging growth company until the earliest to occur: (i) the last day of the fiscal year in which we have more than $1.235 billion in annual gross revenue; (ii) the date we qualify as a “large accelerated filers” as defined in Rule 12b-2 under the Exchange Act, with at least $700.0 million of equity securities held by non-affiliates; (iii) the issuance, in any three-year period, by us of more than $1.0 billion in non-convertible debt securities; or (iv) the last day of the fiscal year ending after the fifth anniversary of this offering. Even after we no longer qualify as an emerging growth company, we may continue to 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, if either (i) the market value of our stock held by non-affiliates is less than $250.0 million or (ii) our annual revenue is less than $100.0 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700.0 million.

We are also a smaller reporting company as defined in the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as our voting and non-voting common stock held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter, or our annual revenue is less than $100.0 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter.

BUSINESS

Overview

We are a clinical-stage biotechnology company pioneering a new era of G protein-coupled receptor (GPCR) oral small molecule drug discovery powered by our proprietary Native Complex Platform™. Our industrial-scale platform aims to unlock the full potential of GPCR therapies and has led to the discovery and development of our deep pipeline of product candidates focused initially on treating patients in three therapeutic areas: endocrinology, immunology and inflammation, and metabolic diseases.

GPCRs are the largest and most diverse family of cell membrane receptors and regulate physiological processes in nearly every organ system of the human body. Due to their significant role in human diseases, GPCRs have been the most productive target class in drug discovery history, accounting for approximately one-third of all U.S. Food and Drug Administration (FDA) approved drugs, representing approximately 500 products with combined global revenue of approximately $125 billion in 2023. Despite the pharmacological and commercial success of GPCR-targeted agents, about 75% of potential GPCR therapeutic targets remain undrugged and, for certain validated GPCRs, novel binding pockets may exist that could offer enhanced therapeutic benefits. Each step in GPCR activation involves subtle conformational changes that have been historically challenging to reproduce outside of a cell. The inability to isolate GPCR proteins in their native functional form outside of a cellular context has prevented scientists from leveraging some of the state-of-the-art technologies that have revolutionized drug discovery in other major target classes over the past decade. This complex challenge has limited GPCR drug discovery, particularly the development of novel oral small molecules, such as agonists for peptide GPCRs and allosteric modulators.

Our proprietary Native Complex Platform™ replicates the natural structure, function, and dynamics of GPCRs outside of cells at an industrial scale for, as we believe it, the first time. Our foundational technologies enable us to isolate, purify, and reconstitute full-length, properly folded GPCR proteins within ternary complexes with ligands and transducer proteins in a lipid bilayer that mimics the cell membrane. We then apply state-of-the-art discovery tools and technologies to these defined and tunable protein complexes to structurally design, screen for, and optimize potential product candidates. Leveraging our platform, we have transformed GPCR oral small molecule drug discovery to an industrialized and iterative structure-based drug design approach to expand the landscape of druggable GPCR targets with novel oral small molecule medicines for patients. Our Native Complex Platform™ is designed to enable us to target certain GPCRs for the first time, uncover novel binding pockets for validated receptors, and pursue a wide spectrum of pharmacologies, including agonists, antagonists, and allosteric modulators, to affect GPCR signaling in different ways to achieve desired therapeutic effects.

We are advancing a deep portfolio of oral small molecule GPCR-targeted programs with novel mechanistic approaches to treat diseases across multiple therapeutic areas for patients with significant unmet needs. Our wholly-owned pipeline is summarized in the figure below.

Program / Target *Mode of Action*	Therapeutic Area *Indications / U.S. Patient Population*	Development Stage	Key Program Attributes
SEP-786 (PTH1R) *Agonist*	**Endocrinology** *Hypoparathyroidism: ~70k*	Phase 1	• No approved or clinical-stage oral small molecules targeting PTH1R • Convenient oral dosing targets all hypoparathyroidism patients • Maintained serum calcium control over 28-day dosing in preclinical hypoparathyroidism model
SEP-631 (MRGPRX2) *Negative Allosteric Modulator*	**Immunology and Inflammation** *CSU: ~1.5mm* *Other Mast Cell Diseases*	IND-enabling	• Lead oral small molecule candidate targets novel binding site to selectively inhibit mast cells • Blocked mediator-induced angioedema in preclinical MRGPRX2 model • Pipeline-in-a-product potential treating mast cell driven diseases
TSHR *Negative Allosteric Modulator*	**Endocrinology** *Graves' Disease: ~2mm* *Thyroid Eye Disease: ~1mm*	Discovery	• Opportunity for novel oral small molecule disease-modifying agent • Reversed hyperthyroidism and eye proptosis in preclinical Graves' disease model
GLP-1R, GIPR, GCGR *Single- and Multi-Agonists*	**Metabolic Diseases** *Obesity and T2D: ~800mm[1]*	Discovery	• Potential to develop novel oral small molecule mono-, dual- and triple-receptor agonists • Demonstrated significant glucose reduction in preclinical oral-glucose tolerance test • Small molecule approach enables scalable manufacturing

Note: [1] Global population for obesity and T2D PTH1R = Parathyroid Hormone 1 Receptor MRGPRX2 = MAS-Related G Protein-Coupled Receptor X2
TSHR = Thyroid-Stimulating Hormone Receptor GLP-1R = Glucagon-Like Peptide 1 Receptor GIPR = Gastric Inhibitory Polypeptide Receptor GCGR = Glucagon Receptor

Our lead product candidate, SEP-786, is, to our knowledge, the only clinical-stage, oral small molecule agonist targeting the Parathyroid Hormone 1 Receptor (PTH1R) for the treatment of hypoparathyroidism. We are initiating a Phase 1 clinical trial to assess preliminary safety, tolerability, pharmacokinetics (PK) and pharmacodynamics (PD) of SEP-786, and expect to report initial data from this trial in .

We believe our team, scientific and technical advisors, and our proprietary Native Complex Platform™ uniquely positions us to become the leading GPCR-focused biotechnology company.

GPCRs as Therapeutic Targets

GPCRs are the most targeted drug class due to their significant role in human diseases and their pharmacological tractability. GPCRs are characterized by their seven transmembrane domains, and function in ternary complexes that form with extracellular ligands and intracellular transducer proteins which modulate cellular signaling pathways in response to ligand binding. Different GPCRs play vital roles in a variety of physiologic processes of every major organ system including the central nervous system (CNS), cardiovascular, respiratory, metabolic and urogenital systems, making them key therapeutic targets. Today, many GPCR-targeted drugs have established market-leading positions across a variety of therapeutic areas, including Ozempic and Wegovy (each marketed by Novo Nordisk) for the treatment of type 2 diabetes (T2D), and obesity, respectively, and Nurtec ODT (marketed by Pfizer) for the acute treatment of migraine.

Historically, GPCR oral small molecule drug discovery has been highly concentrated on a small number of targets – despite GPCRs constituting the largest human membrane protein family – as GPCRs are difficult to isolate in their native functional form outside of a cellular context, which has limited the utilization of modern drug discovery tools and technologies. As a result, about 75% of GPCR therapeutic targets remain undrugged and, for certain validated GPCRs, novel binding pockets may exist that could offer enhanced therapeutic benefits.

Our Native Complex Platform™ Aims to Unlock the Full Therapeutic Potential of GPCRs

In the past decade, drug discovery across various target classes has been revolutionized by a variety of state-of-the-art tools and technologies. These innovations include structure-based drug design, computational docking, and DNA-encoded libraries (DELs). However, the utilization of these technologies has been limited for discovering oral small molecules targeting GPCRs due to the inability to isolate functional native GPCR proteins outside of a cellular context.

With our proprietary Native Complex Platform™, we can purify GPCRs outside of cells and reconstitute them into fully functional ternary complexes with transducer proteins (e.g., G proteins, beta-arrestins) and ligands (endogenous or synthetic), all housed within a well-defined lipid bilayer environment (Figure 1). These Native Complexes are full-length, properly folded GPCRs that retain their natural structure, function, and dynamics. We then apply state-of-the-art discovery tools and technologies to these defined and tunable protein complexes to structurally design, screen for, and optimize potential product candidates. Leveraging our platform, we have transformed GPCR drug discovery, potentially expanding the landscape of druggable GPCR targets with novel oral small molecule medicines for patients.

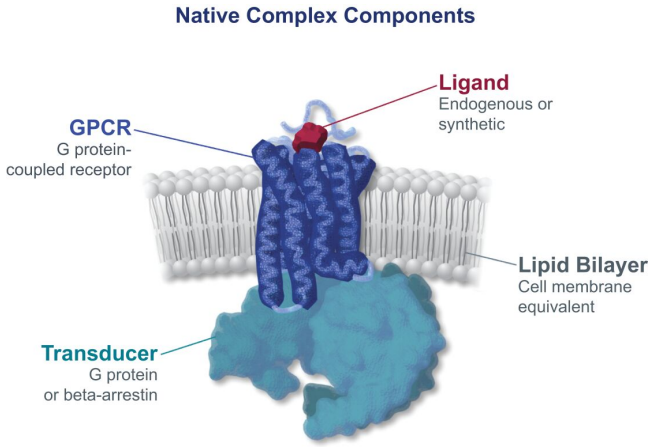


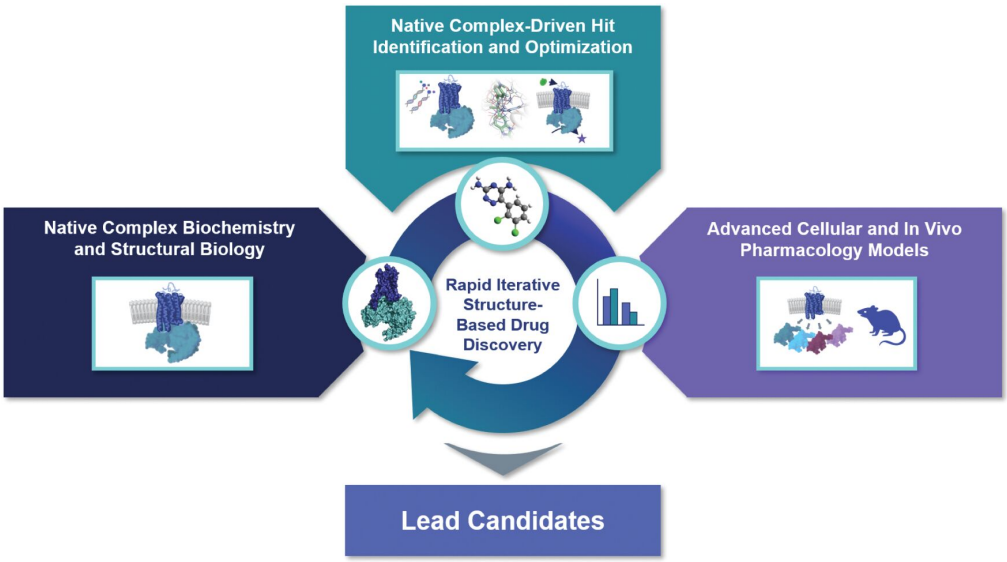
Figure 1. Native Complexes consist of full-length, properly folded GPCR proteins reconstituted with a ligand and/or a transducer protein such as a G protein in a lipid bilayer that mimics the cell membrane.

Our Native Complex Platform™ is powered by a suite of tools and technologies that we have optimized and integrated into a proprietary and industrialized workflow, and together form an efficient and iterative discovery process for identification and optimization of novel small molecule product candidates targeting high-value GPCRs, including:

- ***Native Complex biochemistry and structural biology:*** Our Native Complexes reconstitute native GPCR function in a purified biochemical format, which enables efficient high-resolution, three-dimensional structure determination using cryogenic electron microscopy (cryo-EM). This can reveal receptor binding pockets that we can target with a range of pharmacologies (e.g., agonists, antagonists, and allosteric modulators) as well as novel insights into mechanisms for GPCR modulation.

- ***Native Complex-driven hit identification and optimization:*** We virtually screen our GPCR structures against ultra-large-scale computational databases containing billions of candidate molecules to identify the most promising small molecule compounds that bind in pockets on the GPCR structure. We use technologies, including DELs, to screen billions of candidate molecules simultaneously, and we have developed proprietary technologies to discover and optimize compounds with a variety of modes of action. In addition, we use our proprietary Native Complex biochemical screens in our hit identification and optimization processes.
- ***Advanced cellular and in vivo pharmacology models:*** We efficiently evaluate hits and lead compounds through the integration of advanced cellular and *in vivo* pharmacology models. Prioritized compounds with desired pharmacologies are then either advanced as potential drug candidates or fed back into the process for additional Native Complex-driven compound optimization.

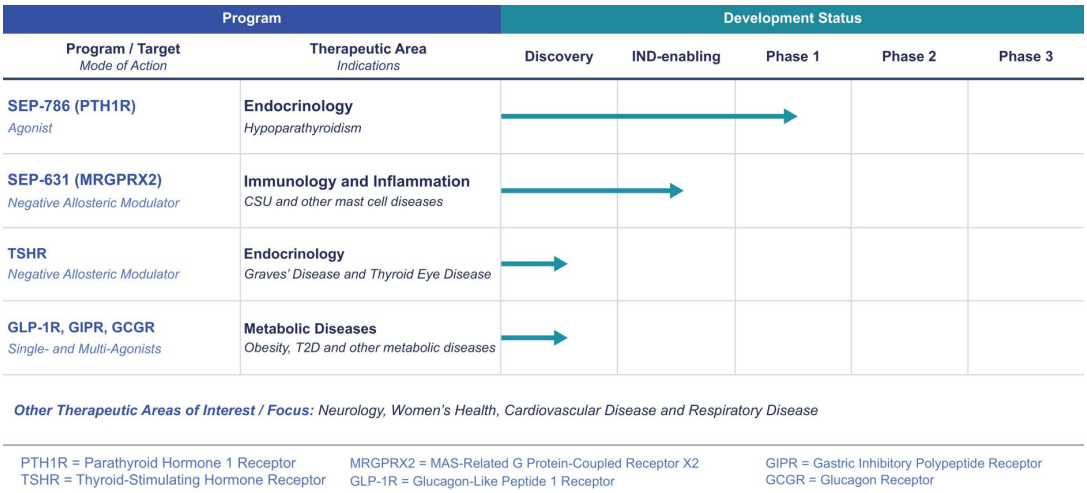
Our oral small molecule drug discovery process, powered by our proprietary Native Complex Platform™, is depicted in the figure below.



We believe we are at the forefront of industrial-scale GPCR drug discovery and development. Our Native Complex Platform™ is designed to target certain GPCRs for the first time, uncover novel binding pockets for validated receptors, and pursue a wide spectrum of pharmacologies to achieve desired therapeutic effects. Our platform has led to the discovery and development of a pipeline of novel, highly potent and selective oral small molecules, and for our most advanced programs, optimized them into clinical development candidates.

Our Pipeline and Programs

Our wholly-owned pipeline, summarized in the figure below, is focused initially on three therapeutic areas: endocrinology, immunology and inflammation, and metabolic diseases. We intend to evaluate opportunities in other major therapeutic areas, such as neurology, women's health, cardiovascular, and respiratory disease.



SEP-786 – Oral Small Molecule PTH1R Agonist for Hypoparathyroidism

Hypoparathyroidism is a rare endocrine disease characterized by insufficient levels of parathyroid hormone (PTH) that affects approximately 70,000 patients in the United States and approximately 140,000 patients in Europe. Patients with hypoparathyroidism are at risk of both short-term and long-term complications, including muscle cramps, fatigue, cognitive dysfunction, and life-threatening complications, such as cardiac arrhythmias, seizures, and renal failure. The goal of treatment is to relieve symptoms and restore calcium and phosphate levels to normal. Current standard of care consists of high-dose calcium supplements and activated vitamin D (calcitriol); however, these therapies do not replace other functions of PTH to restore physiological mineral homeostasis or address all of the symptoms experienced by patients. Hormone replacement with injectable PTH peptides, either marketed or in clinical development, may improve blood chemistry profiles of patients via PTH1R activation but will require life-long daily injections. We believe there is a substantial opportunity for an oral small molecule therapy that offers convenience, improved compliance, and potentially superior efficacy.

Our lead product candidate, SEP-786, is, to our knowledge, the only clinical-stage, oral small molecule agonist targeting PTH1R for the treatment of hypoparathyroidism. PTH1R is a historically difficult-to-drug small molecule target, yet we effectively leveraged our Native Complex Platform™ to discover and optimize SEP-786 with desired drug-like properties. In preclinical studies, SEP-786 has been observed to be generally well-tolerated and has demonstrated potent and selective activation of PTH1R in human, dog, and rat receptor *in vitro* models. In a preclinical animal model of hypoparathyroidism, SEP-786 controlled serum calcium levels within the normal range over a 28-day dosing period. We have successfully completed Investigational New Drug (IND)-enabling studies and are initiating a Phase 1 clinical trial to assess preliminary safety, tolerability, PK, and PD of SEP-786. We expect to report initial data from this trial in .

SEP-631 – Oral Small Molecule MRGPRX2 NAM for CSU and Other Mast Cell Diseases

Chronic spontaneous urticaria (CSU) is a systemic inflammatory skin disease characterized by the spontaneous and persistent recurrence of itchy, painful hives, known as wheals, on the skin and angioedema, or

swelling, that affects approximately 1.5 million patients in the United States. While there is no known trigger, the degranulation of mast cells and release of histamine and other inflammatory mediators lead to these debilitating symptoms. Patients are treated initially with antihistamines and non-responders may be treated with Xolair (omalizumab), an injectable anti-IgE monoclonal antibody. The targeting and blocking of IgE-mediated inflammation can effectively address symptoms; however, only an estimated 36% of these antihistamine- refractory patients respond to anti-IgE therapy. Mas-related G-protein coupled receptor member X2 (MRGPRX2) plays an important role in mast cell activation and degranulation. We believe an oral therapy that inhibits MRGPRX2 could provide a differentiated treatment option for patients with CSU given the selective inhibition of mast cells and potential for combination therapy.

SEP-631 is a selective, oral small molecule MRGPRX2 negative allosteric modulator (NAM) that we are developing initially for the treatment of CSU. In preclinical studies, SEP-631 demonstrated potent and long-lasting inhibition of MRGPRX2 and blocked mediator-induced angioedema in mice engineered to express the human MRGPRX2 receptor. We have initiated IND-enabling studies of SEP-631 and upon completion, we anticipate submitting for regulatory clearance to initiate a clinical trial.

In addition to CSU, we believe there is a significant opportunity to develop SEP-631 for the treatment of other mast cell diseases. MRGPRX2 is highly and uniquely expressed on mast cells that drive multiple prevalent diseases, including allergic asthma, atopic dermatitis, interstitial cystitis, migraine, and prurigo nodularis. We believe SEP-631 could offer a novel oral treatment option for these patient populations.

TSHR Program – Oral Small Molecule TSHR NAM for Graves' Disease and TED

Graves' disease is one of the most prevalent autoimmune conditions affecting over 2 million patients in the United States and is the leading cause of hyperthyroidism, resulting in symptoms including anxiety, irritability, tremor, and fatigue. Treatments have remained largely unchanged over the past 70 years, and include anti-thyroid medications, radioactive iodine therapy to ablate thyroid gland function, and thyroidectomy surgery. These treatment options may initially address the underlying symptoms, but they are not disease-modifying and do not stop disease progression to thyroid eye disease (TED) for approximately 50% of Graves' disease patients. TED is a serious, progressive and vision-threatening autoimmune condition that can lead to eye bulging, swelling, pain and blurred or double vision. Current treatments for TED, such as TEPEZZA (teprotumumab-trbw), an anti-IGF-1R human monoclonal antibody, are designed to help manage symptoms. Despite reaching global sales of $2.0 billion in 2022, TEPEZZA requires several intravenous (IV) infusions over several months and has risks of serious side effects, including hearing loss and metabolic issues, such as increased blood glucose or hyperglycemia.

These autoimmune conditions are caused by autoantibodies that bind to and activate the thyroid stimulating hormone receptor (TSHR) on thyroid cells in the thyroid gland (leading to Graves' disease) and other cells including orbital fibroblasts located behind the eyes (leading to TED). We believe an oral small molecule TSHR NAM could offer a novel disease-modifying treatment approach that directly addresses the pathobiology of both diseases by blocking TSHR overactivation caused by patients' autoantibodies.

In our preclinical studies, we have demonstrated that a TSHR NAM can reverse hyperthyroidism and proptosis in a novel mouse model of Graves' disease and inhibits multiple Graves' disease patient TSHR activating autoantibodies in cell-based assays using primary human cells. We are advancing several lead compounds towards selection of a development candidate for IND-enabling studies.

Incretin Programs – Oral Small Molecule Single- and Multi-Incretin Receptor Agonists for Metabolic Disorders Including Obesity and T2D

Obesity and diabetes are two of the most prevalent diseases in the world, affecting a combined total of more than 800 million people, and are associated with severe health complications, including cardiovascular disease

and kidney failure, as well as an increased risk of death. Weight reduction is seen as an important treatment goal for patients with either condition. In recent years, several injectable peptide agonists targeting select metabolic hormone receptors, or incretin receptors, have been approved for the treatment of T2D and obesity.

Three incretins play significant roles in glucose metabolism and homeostasis: glucagon-like peptide-1 (GLP-1), gastric inhibitory polypeptide (GIP), and glucagon. Third-party clinical data with incretin-targeted therapeutics have demonstrated substantial and sustained reductions in body weight, as well as the ability to lower blood glucose and improve glycated hemoglobin (HbA1c). Global sales in 2023 for Ozempic and Wegovy (semaglutide), and Mounjaro and Zepbound (tirzepatide) were $18.4 billion and $5.3 billion, respectively. Despite these advancements in the treatment of obesity and T2D, a number of key limitations remain for the incretin therapeutic class, including tolerability, prolonged titration schemes, injection administration, and supply challenges.

Based on unique chemical and structural insights obtained with our Native Complex Platform™, we believe we have an opportunity to discover and develop novel, next-generation, oral small molecules as selective single- or multi-acting GLP-1, GIP, glucagon receptor agonists. We are advancing several lead compounds towards selection of one or more development candidates for IND-enabling studies.

Our Team and Investors

We have built a strong values-driven organization, and we are advancing cutting-edge science and rigorously developing a broad and deep portfolio of GPCR-targeted programs for patients. We were founded by preeminent drug discovery company builders and scientific leaders in the biochemistry, structural biology, and pharmacology of GPCRs:

- **Robert Lefkowitz, M.D.,** James B. Duke Professor of Medicine and Professor of Biochemistry and Chemistry at Duke University and an Investigator of the Howard Hughes Medical Institute. Dr. Lefkowitz is globally recognized for his groundbreaking discoveries that reveal the inner workings of GPCRs, for which he was awarded the 2012 Nobel Prize in Chemistry and elections to both the National Academy of Sciences and the National Academy of Medicine.
- **Arthur Christopoulos, Ph.D.,** Professor of Analytical Pharmacology, Dean of the Faculty of Pharmacy & Pharmaceutical Sciences, and Director of the Neuromedicines Discovery Centre at Monash University in Australia. Dr. Christopoulos is a world-leading expert in GPCR molecular pharmacology and responsible for several seminal discoveries of allosteric modulation of GPCRs, for which he has been elected to both the Australian Academy of Science and the Australian Academy of Health and Medical Sciences.
- **Patrick Sexton, Ph.D., D.Sc.,** Professor, Drug Discovery Biology at Monash University and Director of the ARC Centre for Cryo-electron Microscopy of Membrane Proteins. Dr. Sexton is an international leader in GPCR biochemistry, pharmacology, and structural biology and his team is at the forefront of using cryo-EM to elucidate the structure and dynamics of GPCRs.
- **Jeffrey Finer, M.D., Ph.D.**, our President and Chief Executive Officer. Dr. Finer has more than 35 years of research, clinical and business experience. He has focused his career on breakthrough innovations that have included moving several first-in-class drugs into clinical trials, developing novel technology platforms that integrate science and engineering, and new company creation. As a Venture Partner at Third Rock Ventures, LLC (Third Rock Ventures), Dr. Finer was involved in the founding and launching of multiple biotech companies, including Maze Therapeutics, Inc. and Ambys Medicines, Inc., and served as interim Chief Technology Officer at both. Previously, Dr. Finer spent several years in research and development leadership positions, including Vice President, Research Technology at Theravance Biopharma, Inc. (Theravance Biopharma), Vice President, Discovery at Five Prime Therapeutics, Inc., and Director, Drug Discovery at Cytokinetics, Incorporated.

In addition, we have established a team of experienced biotechnology leaders with deep expertise in company building, drug discovery, and clinical advancement of novel medicines. Our senior leadership team includes:

- **Elizabeth (Liz) Bhatt, M.S., M.B.A.**, our Chief Operating Officer, who has more than 30 years of strategy, deal-making and company-building experience across a range of biotech and pharmaceutical companies, including Applied Molecular Transport Inc., Achaogen, Inc., Gilead Sciences, Inc., Eli Lilly and Company, and Maxygen, Inc.
- **Alan Ezekowitz, M.D., D.Phil.**, our interim Chief Medical Officer, is an Advisory Partner at Third Rock Ventures and a leader in the field of developmental immunology with more than 150 publications. Dr. Ezekowitz served at the Harvard Medical School as the Charles Wilder Professor of Pediatrics, as the Head of Laboratory for Development Immunology and Principal of the Cancer Center and later as Chief of Pediatric Services at the Massachusetts General Hospital for Children, and as a director on the Partners Healthcare System board. Previously, Dr. Ezekowitz was the co-founder, President and Chief Executive Officer of Abide Therapeutics, Inc., which he oversaw through its acquisition by H. Lundbeck A/S, and during his tenure at Merck Research Laboratories, he was responsible for the bone, respiratory, immunology, inflammation, dermatology, and endocrine franchises.
- **Samira Shaikhly**, our Chief People Officer, is a human resources leader with more than 25 years of experience enabling organizational effectiveness in high-growth companies across multiple human resource disciplines including a 15-year tenure at Gilead Sciences, Inc.
- **Uwe Klein, Ph.D.**, our Senior Vice President, Biological Sciences, has deep expertise in GPCR biology and over 20 years of experience in small molecule drug discovery across a range of biotech and pharmaceutical companies, including MyoKardia, Inc. (acquired by Bristol-Myers Squibb (BMS)). Earlier in his career, Dr. Klein held positions as Vice President, Biology at Numerate, Inc. (acquired by Valo Health, Inc.) and as Senior Director, Molecular & Cellular Biology at Theravance Biopharma, where he led a team of biologists and two cross-functional project teams in the discovery of numerous development candidates and several clinical compounds across different therapeutic areas and target classes.
- **Daniel Long, D.Phil.**, our Senior Vice President, Drug Discovery, is a highly experienced drug hunter with a track record of leading high-performing teams that discover drug candidates and advance them through preclinical development to IND and into clinical trials. Dr. Long spent more 20 years at Theravance Biopharma, where he held numerous scientist positions, including as Vice President, Head of Medical Chemistry, Biology and Pharmacology.

Our board of directors is composed of accomplished leaders in the life sciences industry, including our board chairman, Jeffrey Tong, Ph.D., a Partner at Third Rock Ventures; Abraham Bassan, M.S., a Principal at Samsara BioCapital L.P. (Samsara); Bernard Coulie, M.D., Ph.D., M.B.A., President and Chief Executive Officer of Pliant Therapeutics, Inc.; Dr. Ezekowitz, an Advisory Partner at Third Rock Ventures; Shalini Sharp, M.B.A., a member of the boards of directors of Neurocrine Biosciences, Inc. and Organon & Co. and former Chief Financial Officer and Executive Vice President at Ultragenyx Pharmaceuticals Inc.; Jake Simson, Ph.D., a Partner at RA Capital Management, L.P. (RA Capital), and Dr. Finer, our Chief Executive Officer. Further, we have assembled a cross-functional scientific and drug discovery advisory board, comprised of seasoned drug hunters and leading academic scientists at the forefront of GPCR biology and pharmacology.

Since our inception, we have raised net proceeds of approximately $224.2 million in equity capital from a syndicate of premier life sciences investors. Potential investors should not consider investments made by our existing investors as a factor when making a decision to purchase shares in this offering since our existing investors likely have different risk tolerances and paid significantly less per share than the price at which the shares are being offered in this offering.

Our Strategy

Our goal is to develop life-changing GPCR-targeted medicines for patients with significant unmet medical needs. We plan to achieve this goal by pursuing the following strategies:

- **Efficiently advance our portfolio of GPCR-targeted programs, led by SEP-786.** Our lead product candidate, SEP-786, is, to our knowledge, the only clinical-stage, oral small molecule agonist of PTH1R for hypoparathyroidism. We are initiating a Phase 1 clinical trial to assess preliminary safety, tolerability, PK, and PD of SEP-786, and we expect to report initial data from this trial in . Our second most advanced candidate, SEP-631, an oral small molecule MRGPRX2 NAM that we are developing initially for the treatment of CSU, is currently in IND-enabling studies. We believe SEP-631 represents a pipeline-in-a-product opportunity to treat multiple mast cell-driven diseases. We also plan to continue advancing our TSHR and incretin programs toward selection of development candidates.
- **Continue to expand our differentiated GPCR-targeted pipeline focused on indications with significant unmet needs.** We are leveraging our GPCR biology and pharmacology know-how and proprietary Native Complex Platform™ to address a diverse range of diseases. For each of our programs to date, we have advanced from initiation of medicinal chemistry to potent drug-like compounds with activity in animal models in less than one year. We are focused initially on developing our novel GPCR-targeted drug candidates in three therapeutic areas – endocrinology, immunology and inflammation, and metabolic diseases – and intend to expand into other therapeutic areas. We will continue to focus on indications with well understood biology, predictive biomarkers for early proof-of-concept, efficient clinical development pathways, and high unmet medical need.
- **Maximize the potential of our Native Complex Platform™ through continued innovation and investment.** We believe our industrial-scale platform positions us at the forefront of GPCR drug discovery and development. We have thoughtfully integrated state-of-the-art, high-resolution structural biology with large-scale screening and functional testing to accelerate the discovery and optimization of high-quality lead compounds. In under three years, our platform has allowed us to determine more than 80 high-resolution, three-dimensional GPCR structures with bound small molecules spanning multiple pharmacological mechanisms, and we have screened over 10 billion compounds across our targets which led to the discovery of our existing portfolio of novel compounds. We plan to continually enhance our in-house capabilities, tools, and technologies to further leverage our platform and expand our competitive advantages.
- **Evaluate and selectively execute value-creating strategic partnerships.** We currently own full worldwide rights across our portfolio, and we intend to build out a commercial presence in select major markets. Our industrialized drug discovery platform has generated, and we believe will continue to generate, numerous novel GPCR-targeted product candidates, some of which we will independently develop and commercialize, and others that may benefit from a strategic partner's development and commercial expertise, infrastructure, and financial resources. For example, in September 2023, we entered into an asset purchase agreement with Vertex Pharmaceuticals Incorporated (Vertex), under which Vertex acquired an undisclosed discovery-stage GPCR program from us and will be solely responsible for continuing the associated research and development efforts. We intend to explore additional opportunities with partners that we believe will meaningfully enhance the overall potential of our programs and allow us to further leverage our Native Complex Platform™.

Pioneering Approach to Unlock the Full Therapeutic Potential of GPCRs

We believe we are at the forefront of industrial scale GPCR drug discovery and development. We have pioneered technologies that have unlocked GPCRs that have been historically difficult to drug with oral small molecules, which may allow us to access certain high value GPCRs within the approximately 75% of untapped GPCR therapeutic targets. Our GPCR Native Complex Platform™ is built upon world-class expertise and

leverages proprietary tools and technologies to overcome the historical limitations of GPCR drug discovery, including the isolation, purification, and stabilization of GPCRs in their native forms. Our approach has led to the discovery and development of a deep portfolio of novel oral small molecule GPCR-targeted programs that we are advancing into clinical trials.

GPCRs as Therapeutic Targets

GPCRs regulate physiological processes in nearly every organ system of the human body and are the most targeted drug class due to their significant role in human diseases and their pharmacological tractability. Nearly one-third of all FDA-approved drugs in the United States, representing approximately 500 products, target GPCR-associated pathways. In fact, GPCR-related drugs comprise approximately 27% of global pharmaceutical sales and generated over $125 billion in 2023.

GPCRs are proteins that span the cell membrane seven times, and their primary function is to recognize extracellular substances, or ligands, and transmit signals across the cell membrane to the inside of the cell. Ligand binding induces conformational changes in GPCRs, forming complexes with signal transducers, including G proteins. These transducers interact with second messengers, modulating various cellular processes. Certain GPCR ligands are capable of activating multiple pathways through different transducers, leading to diverse physiological and pathological effects.

GPCRs constitute the largest and most diverse family of cell membrane receptors, with around 800 identified members. GPCRs are key therapeutic targets due to their vital roles in a variety of physiologic processes including immune regulation, nervous system transmission, mood and behavior regulation, sensory transmission, and maintaining cardiovascular and gastrointestinal homeostasis. Despite the pharmacological and commercial success of GPCR-targeted agents, a majority of GPCR therapeutic targets remain undrugged. Each step in GPCR activation involves subtle conformational changes that have been historically challenging to reproduce outside of a cell. The inability to isolate GPCR proteins in their native functional form outside of a cellular context has prevented scientists from leveraging some of the state-of-the-art technologies that have revolutionized drug discovery in other major target classes over the past decade. This complex challenge has limited GPCR drug discovery, particularly the development of novel oral small molecules, such as agonists for peptide GPCRs and allosteric modulators.

To date, drug discovery has been highly concentrated on a small number of GPCRs. More than 70% of current GPCR-related drugs target only six subfamilies of GPCRs. There are about 400 known non-olfactory GPCRs, each represented as a branch on the phylogenetic tree in Figure 2 below.

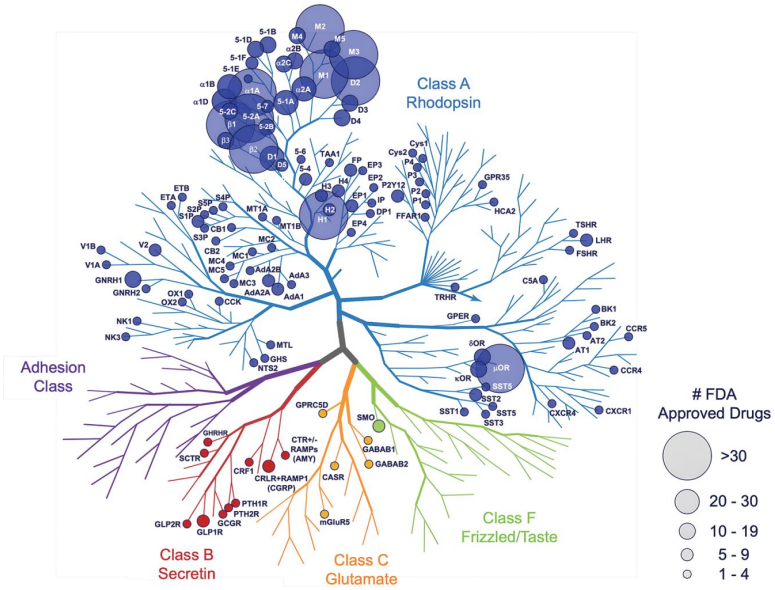


Figure 2. GPCR phylogenetic tree highlighting the number of FDA-approved drugs for each GPCR as of February 2024.

Today, approximately 75% of potential GPCR therapeutic targets remain undrugged, representing significant opportunity to address a vast range of therapeutic areas and diseases. And, even for certain validated GPCRs, novel binding pockets may exist that could offer enhanced therapeutic benefits.

Our Native Complex Platform™

In the past decade, the landscape of drug discovery has been revolutionized by advanced technologies that significantly impact small molecule drug discovery across various target classes. These innovations include structure-based drug design, computational docking, and DNA-encoded libraries (DELs). However, the full potential of these technologies has remained largely untapped for GPCRs due to challenges with isolating functional native GPCR proteins.

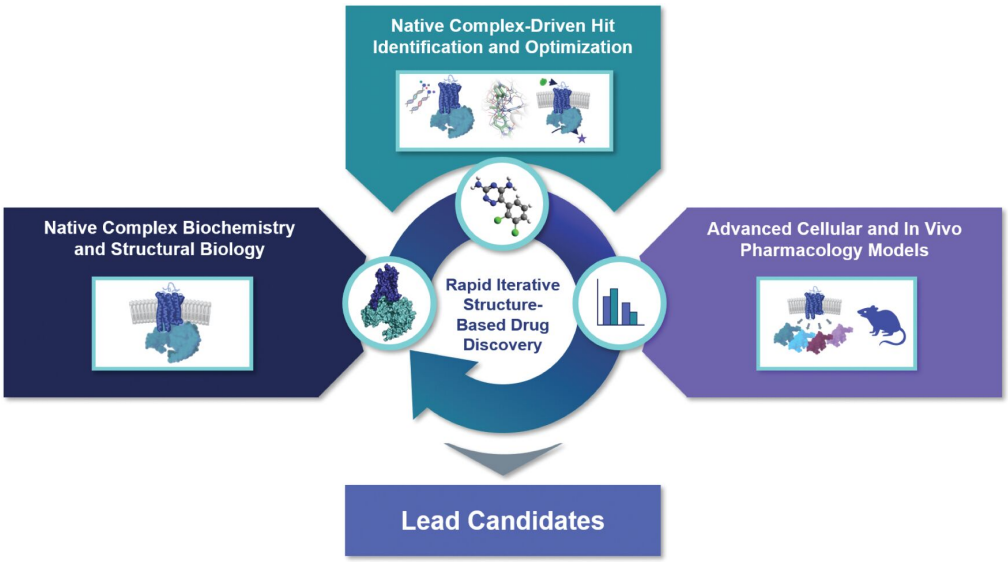
With our proprietary Native Complex Platform™, we can purify GPCRs outside of cells and reconstitute them into fully functional ternary complexes with transducer proteins (e.g., G proteins, beta-arrestins) and ligands (endogenous or synthetic), all housed within a well-defined lipid bilayer environment. These Native Complexes are full-length, properly folded GPCRs that retain their natural structure, function, and dynamics. We then apply state-of-the-art discovery tools and technologies to these defined and tunable protein complexes to structurally design, screen for, and optimize potential product candidates. Leveraging our platform, we have transformed GPCR drug discovery, potentially expanding the landscape of druggable GPCR targets with novel oral small molecule medicines for patients.

Our Native Complex Platform™ is powered by a suite of tools and technologies that we have optimized and integrated into a proprietary and industrialized workflow, and together form an efficient and iterative discovery

process for identification and optimization of novel small molecule drug candidates targeting high-value GPCRs, including:

- ***Native Complex biochemistry and structural biology:*** Our Native Complexes reconstitute native GPCR function in a purified biochemical format, which enables efficient high-resolution, three-dimensional structure determination with cryo-EM. This can reveal receptor binding pockets that we can target with a range of pharmacologies (agonists, antagonists, and allosteric modulators) as well as novel insights into mechanisms for GPCR modulation.
- ***Native Complex-driven hit identification and optimization:*** We virtually screen our GPCR structures against ultra-large-scale computational databases containing billions of candidate molecules to identify the most promising small molecule compounds that bind in pockets on the GPCR structure. We use technologies, including DELs, to screen billions of candidate molecules simultaneously, and we have developed proprietary technologies to discover and optimize compounds with a variety of modes of action. In addition, we use our proprietary Native Complex biochemical screens in our hit identification and optimization processes.
- ***Advanced cellular and in vivo pharmacology models:*** We efficiently evaluate hits and lead compounds through the integration of advanced cellular and *in vivo* pharmacology models. Prioritized compounds with desired pharmacologies are then either advanced as potential drug candidates or fed back into the process for additional Native Complex-driven compound optimization.

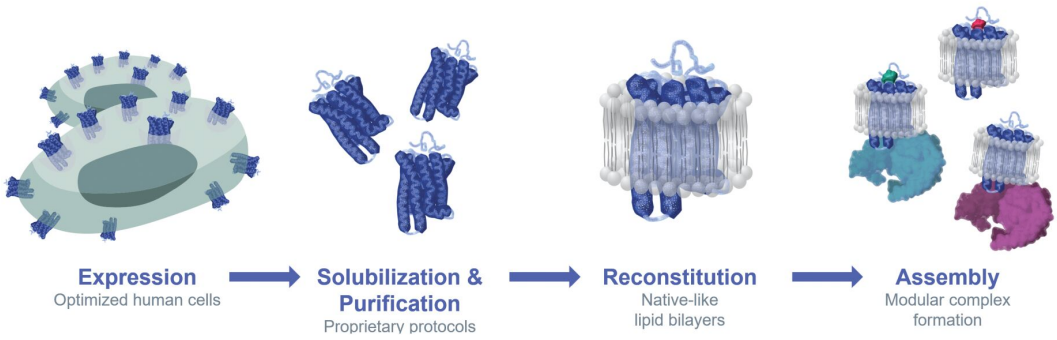
Our oral small molecule drug discovery process, powered by our proprietary Native Complex Platform™, is depicted in the figure below.



We believe we are at the forefront of industrial-scale GPCR drug discovery and development. Our Native Complex Platform™ is designed to target certain GPCRs for the first time, uncover novel binding pockets for validated receptors, and pursue a wide spectrum of pharmacologies, including agonists, antagonists, and allosteric modulators, to achieve desired therapeutic effects. We have successfully applied the technologies of our platform to identify novel, highly potent and selective oral small molecules, and for our most advanced programs, optimized them into clinical development candidates.

Native Complex Biochemistry and Structural Biology Capabilities

We have developed an industrialized workflow for creating Native Complexes, which involves reconstituting fully functional GPCRs outside their cellular context. As illustrated in the figure below, our process for creating a Native Complex begins with a human cell expression system that allows us to express GPCRs at high levels. We then extract these GPCRs using proprietary solubilization and purification protocols that maintain their stability and prevent denaturation. Following extraction, we reconstitute the GPCRs in an artificial lipid bilayer that closely mimics the natural cell membrane. These reconstituted GPCRs can be combined with ligands and/or separately purified transducers such as G proteins and beta-arrestins. These Native Complexes are modular assemblies, and a variety of different receptor states can be created by using different combinations of transducers and ligands.



Once we have isolated a Native Complex, we determine the high-resolution, three-dimensional structure of the GPCR and a bound compound using cryo-EM. Our in-house capabilities, tools, and technologies enable us to identify the precise binding orientation of a drug candidate with exceptional resolution. After generating the initial Native Complex structure, our advanced technologies enable us to efficiently produce subsequent high-resolution structures. To date, we have successfully determined the structures of over 80 high-resolution, three-dimensional GPCR structures with bound small molecule ligands spanning multiple mechanisms including agonists, antagonists, and allosteric modulators. Our structure-based drug discovery approach also allows us to uncover novel binding pockets on validated GPCRs that may offer enhanced therapeutic benefits. In a single lead optimization campaign, we typically generate 10-20 high-resolution structures, and this has allowed us to rapidly iterate and optimize our compounds efficiently into lead drug candidates.

Native Complex-Driven Hit Identification and Optimization

Once we have determined Native Complex structures and identified binding pockets of interest, we employ ultra-large scale virtual screening using extensive computational databases of make-on-demand compounds. To date, we have screened over 10 billion such compounds, computationally docking them into the binding pockets of our high-resolution, three-dimensional GPCR structures. Upon identifying candidate compounds with optimal binding poses, we proceed to synthesize and test these compounds in functional assays to evaluate whether they exhibit the desired molecular pharmacology attributes.

Separately, we combine our Native Complexes with DELs to select for GPCR binders with specific functional profiles. DELs are combinatorial libraries of billions of small molecules synthesized with an added DNA barcode, and we leverage next-generation sequencing technologies to identify high-affinity binders that are optimally suited to modulate specific GPCRs of interest with desired mechanisms of action. We have developed proprietary DEL workflows to discover novel compounds with a wide spectrum of activities including agonists, antagonists, and allosteric modulators.

By integrating these advanced screening techniques into our Native Complex Platform™, we have been able to significantly enhance the efficiency and precision of our drug discovery efforts.

Advanced Cellular and In Vivo Pharmacology Models

Upon identifying highly potent, novel compounds, we proceed to test these compounds in novel cell-based assays and *in vivo* pharmacology models to evaluate whether the compounds exhibit desired drug-like properties. Only the most promising candidates that demonstrate the intended pharmacologic activity move forward into lead optimization campaigns. Other candidate compounds are fed back into our drug discovery process for additional Native Complex-driven compound optimization. For each of our programs, we have advanced from initiation of medicinal chemistry to potent drug-like compounds with activity in animal models in less than one year.

Our proprietary Native Complex Platform™ enables iterative structure-based GPCR drug design for what we believe is the first time at scale. Our Native Complex Platform™'s integrated approach of combining high-resolution structural insights with large-scale screening and rapid functional testing accelerates the discovery and optimization of new therapeutic compounds. Our industrial-scale platform aims to unlock the full potential of GPCR therapies and has led to the discovery and development of our pipeline of product candidates focused on treating patients across a variety of therapeutic areas.

Portfolio Opportunities Targeting the Full Breadth of GPCRs

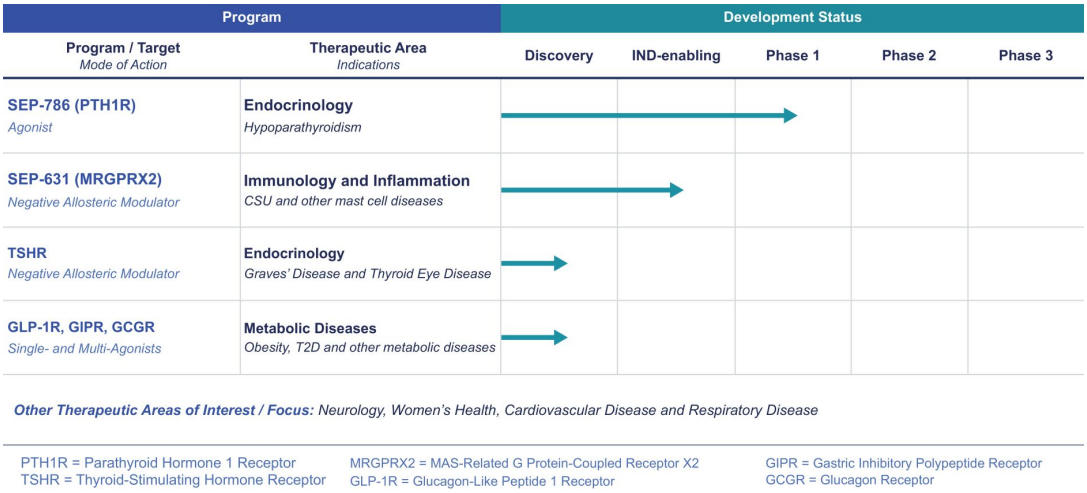
There are significant unmet medical needs across numerous GPCR-driven diseases. Our portfolio is focused initially on three therapeutic areas with the potential to expand to additional therapeutic areas in the future:

- ***Endocrinology****:* The endocrine system involves glands that secrete hormones into the bloodstream that have effects on other tissues. Central to this system are GPCRs, which serve as primary receptors for many circulating hormones. GPCR biology is at the center of endocrine diseases, such as hypoparathyroidism and Graves' disease, highlighting the urgency for therapeutic interventions targeting GPCR-mediated endocrine disorders. Other endocrine disorders, like osteoporosis, impacts more than 10 million older adults in the United States and could benefit from a small molecule GPCR-directed therapy to help rebuild bone mass.
- ***Immunology & inflammation****:* GPCRs serve as key signaling molecules in various cellular processes, including involvement in the regulation of immune responses and the activation of immune cells such as macrophages, T cells, and dendritic cells. Upon activation by extracellular ligands, GPCRs initiate intracellular signaling cascades that modulate cytokine production, leukocyte trafficking, and inflammatory mediator release. Dysregulation of GPCR signaling pathways is implicated in numerous inflammatory and autoimmune diseases, such as CSU, making them attractive targets for therapeutic intervention.
- ***Metabolic diseases****:* GPCRs are known to regulate various physiological processes such as energy metabolism, glucose homeostasis, and lipid metabolism. These receptors are involved in sensing nutrients, hormones, and other signaling molecules, thereby influencing appetite, insulin secretion, and lipid storage. Dysregulation of GPCR signaling pathways is associated with metabolic disorders, such as obesity and T2D. For instance, GPCRs like adrenergic receptors regulate lipolysis and thermogenesis, while receptors such as the GLP-1 receptor modulate insulin secretion and satiety. Targeting GPCRs is a clinically and commercially validated approach for the development of therapeutics that manage metabolic disorders, offering the potential to manage glucose levels, promote weight loss, and improve metabolic health.

Beyond our initial therapeutic areas of focus, we intend to evaluate opportunities in additional therapeutic areas where GPCRs are directly connected to disease pathology, including in areas of neurology, women's health, cardiovascular disease, and respiratory disease.

Our Pipeline

We are advancing a deep portfolio of highly potent and selective oral small molecule GPCR-targeted programs with novel mechanistic approaches to treat diseases across multiple therapeutic areas for patients with significant unmet needs. Our wholly-owned pipeline is focused initially on three therapeutic areas – endocrinology, immunology and inflammation, and metabolic diseases – and is summarized in the figure below.



Our target selection process considers the validation level of the GPCR and existing preclinical and/or clinical data demonstrating desired biological outcomes upon target modulation for a variety of different indications. We have prioritized indications with well-defined biomarkers to streamline the path to clinical proof-of-concept data, high unmet medical need and significant market opportunities. When analogous molecules exist that are approved or in clinical development, we explore differentiation opportunities and leverage our Native Complex Platform™ to address known limitations. We also leverage regulatory insights from established precedents to guide each program's development strategy. As we expand our portfolio of GPCR-targeted programs, we will continue to focus on targets and indications with well understood biology, predictive biomarkers for early proof-of-concept, efficient clinical development pathways, and high unmet medical need. We are building a deep portfolio comprised of programs that we can independently develop and commercialize upon regulatory approval, alongside select programs that may benefit from the development and commercial expertise, infrastructure and financial support of a strategic partner.

SEP-786: Oral Small Molecule PTH1R for Hypoparathyroidism

Our lead product candidate, SEP-786, is, to our knowledge, the only clinical-stage, oral small molecule agonist targeting PTH1R for the treatment of hypoparathyroidism. We discovered and designed SEP-786 to have potent and selective activation of PTH1R, a GPCR highly involved in blood calcium control, with an optimized profile that achieves sustained normalization of serum calcium and phosphate upon once-daily or twice-daily oral dosing. Based on promising preclinical data observed to date, we believe SEP-786 has the potential to be a differentiated treatment for hypoparathyroidism. We have successfully completed IND-enabling studies and are initiating a Phase 1 clinical trial to assess preliminary safety, tolerability, PK, and PD of SEP-786. We expect to report initial data from this trial in .

Overview of Hypoparathyroidism

Disease Background and Role of PTH1R

Hypoparathyroidism is a rare endocrine disease characterized by insufficient levels of PTH that affects approximately 70,000 patients in the United States and 140,000 patients in Europe. PTH is a critical hormone for calcium and phosphate homeostasis and functions through the activation of PTH1R. Under normal physiological conditions, PTH is released from the parathyroid glands when circulating calcium levels are reduced and will act on PTH1R expressed on bone and kidney cells to increase calcium levels (see Figure 3). Most patients with hypoparathyroidism develop the condition following damage to or accidental removal of the parathyroid glands during thyroid surgery, while other etiologies include autoimmune and genetic disorders. Patients with hypoparathyroidism are at risk of both short-term and long-term complications and comorbidities, such as tingling or burning of the extremities, muscle cramps and spasms, abdominal pain, abnormal heart rhythm, cataracts, and fatigue and muscle weakness. Chronic hypoparathyroidism is associated with cognitive and emotional symptoms, such as mental lethargy, inability to concentrate, memory loss or forgetfulness, anxiety and depression. Many patients experience persistent symptoms that negatively impact quality of life and reduce work productivity.

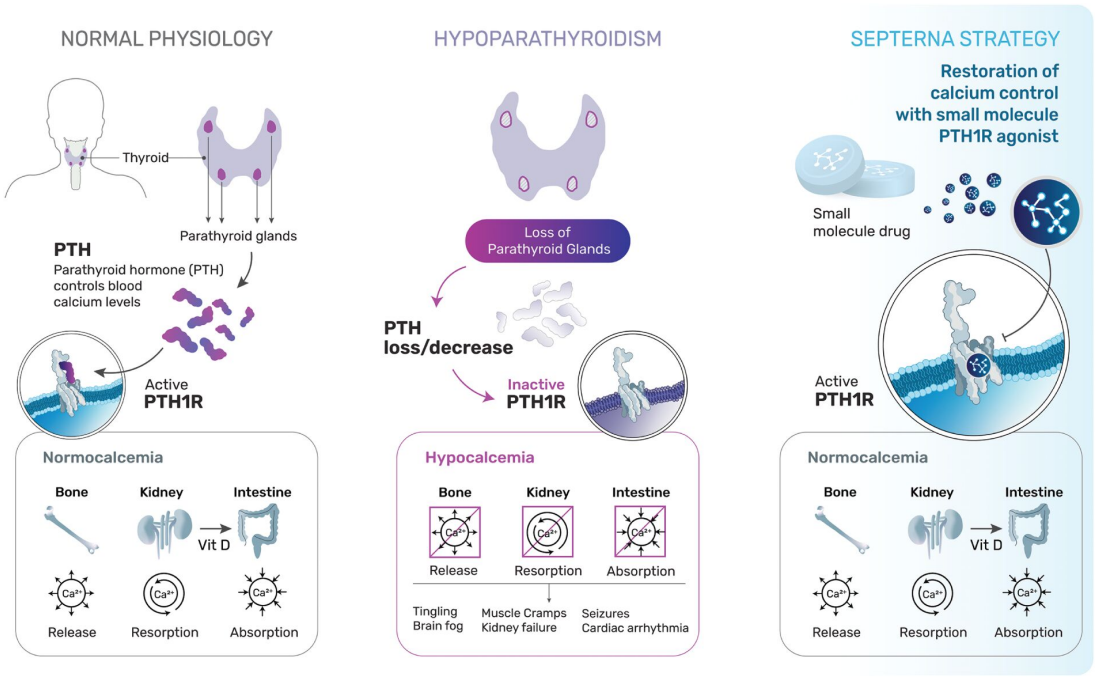


Figure 3. Overview of parathyroid hormone physiology, hypoparathyroidism, and our strategy to develop an oral small molecule PTH1R agonist to restore calcium homeostasis in patients with hypoparathyroidism.

Current Treatment Options and Their Limitations

The standard treatment for hypoparathyroidism consists of high-dose calcium supplements and activated vitamin D (calcitriol) several times a day, which aim to correct serum calcium levels. However, these therapies do not replace other functions of PTH to restore physiological mineral homeostasis, resulting in an increased risk of physical symptoms, including fatigue, paraesthesia, muscle cramping, tetany, and joint or bone pain, as well as long-term complications, such as soft-tissue calcifications and impaired renal function. For some patients with chronic hypoparathyroidism, a managed transition from a high daily calcium intake to a no- or low-calcium treatment regimen may reduce adverse events or complications, including kidney stones and hospitalization due

to hyper- or hypocalcemia. Even among patients on conventional treatments whose serum calcium levels are within the normal range, these side effects limit the ability of currently available treatments to be safe and effective options for chronic long-term use.

Injectable synthetic PTH peptides have been validated in clinical trials to increase serum calcium and provide a more physiological alternative to conventional therapy. These therapies are designed to sustain PTH in the normal physiological range, thereby more fully addressing the underlying condition. In 2015, NATPARA (parathyroid hormone) became the first and only FDA-approved prescription PTH injection that is taken with calcium and vitamin D to control hypocalcemia in adults with hypoparathyroidism. Since then, manufacturer Takeda voluntarily recalled NATPARA in the United States due to manufacturing issues and announced that it will discontinue global manufacturing of NATPARA by the end of 2024. In 2023, palopegteriparatide (marketed as YORVIPATH in the EU by Ascendis Pharma), an investigational prodrug of active PTH (1-34), received regulatory approval in the EU, as a hormone replacement therapy indicated for the treatment of adults with chronic hypoparathyroidism. While hormone replacement with injectable PTH peptides, either marketed or in clinical development, may effectively normalize calcium levels and manage disease complications, they require life-long daily injections.

Our Solution: Oral Small Molecule PTH1R Agonist

Our Program Strategy

We believe there is an unmet need for an oral small molecule PTH1R agonist that offers hypoparathyroidism patients a convenient, more physiological treatment option. Since conventional therapies, such as calcium and vitamin D, have limitations and do not restore other actions of PTH, such as bone turnover or renal calcium reabsorption, we believe an oral option that can increase serum calcium and replace the other functions of PTH, is needed for patients. Our potent and selective PTH1R agonist is designed to address all patients with hypoparathyroidism. This includes the most severe patients, who may start injectable PTH peptide therapy, as well as mild-to-moderate patients who are currently on high doses of calcium and vitamin D and may be less interested in an injectable PTH peptide.

Additionally, our Native Complex Platform™ affords us the opportunity to continuously iterate and optimize additional oral small molecule PTH1R agonists. We may develop additional molecules for hypoparathyroidism or for other indications where PTH1R agonists can address disease pathology, such as osteoporosis.

Preclinical Activity of SEP-786

Our Native Complex Platform™ was applied to PTH1R and yielded multiple tractable chemical series of small molecule PTH1R agonists. Iterative structure-based lead optimization yielded our lead product candidate, SEP-786, for which we are currently initiating a Phase 1 clinical trial.

SEP-786 has demonstrated potent and selective activation of PTH1R in human, dog, and rat receptor *in vitro* models. *In vivo*, SEP-786 was generally well-tolerated and showed activity in a translational rat thyroparathyroidectomy (TPTx) model of hypoparathyroidism (Figure 4.A). In this model, surgical removal of the parathyroid glands replicates the human disease of hypoparathyroidism with a reduction in serum calcium from the normal range. To assess the activity of PTH1R agonists, compounds are dosed orally for small molecules or subcutaneously for peptides, which results in dose-dependent increases in serum calcium allowing for an assessment of compound activity and PK/PD relationships.

Single oral doses of SEP-786 were compared to single subcutaneous doses of a long-acting PTH peptide (LA-PTH) in the TPTx model (Figure 4.B). The 30 mg/kg oral dose of SEP-786 demonstrated a similar time-dependent increase in serum calcium levels to a 2 nmol/kg subcutaneous dose of LA-PTH with both doses resulting in serum calcium levels exceeding the normal serum calcium range (2.0-2.6 mmol/L). SEP-786 demonstrated dose-dependent serum calcium increase with oral doses of 3 mg/kg and 10 mg/kg resulting in serum calcium levels within the normal range.

In a 28-day repeat dose study (Figure 4.C), SEP-786 at 3 mg/kg dosed orally twice-daily provided sustained increases in serum calcium to within the normal range over the entire 28-day dosing period. Effects on phosphate levels, and downstream effects on bone turnover and vitamin D synthesis were also observed.

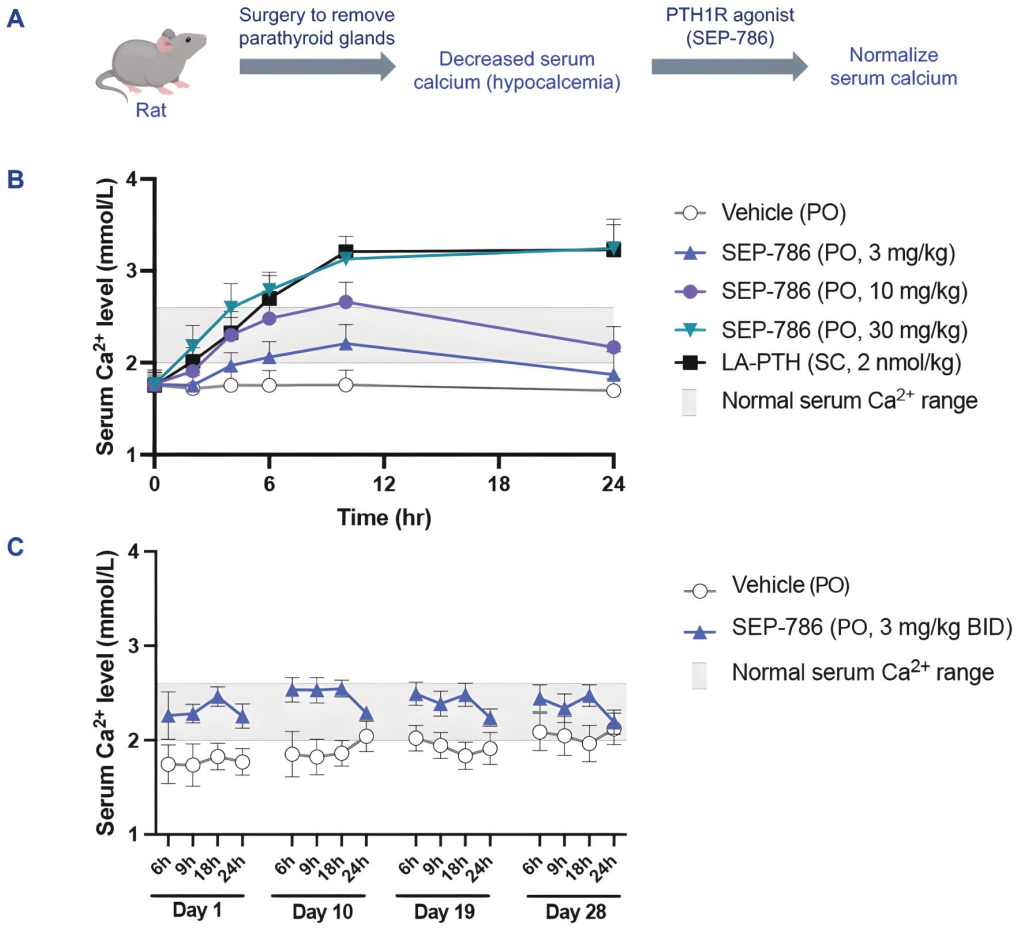


Figure 4. (A) Rat hypoparathyroidism disease model (thyroid-parathyroidectomy model, TPTx). (B) Single oral doses of SEP-786 in the TPTx model show dose-dependent increase in serum calcium. (C) Repeat twice-daily oral dosing of SEP-786 in the TPTx model shows sustained calcium control over 28 days of dosing. PO = oral; SC = subcutaneous; BID = twice-daily.

Preclinical Studies to Support Clinical Advancement of SEP-786

A translational PK/PD model for SEP-786 was developed utilizing the serum calcium PK/PD relationship in TPTx rats and the predicted human PK. We believe this model supports a projection that once-daily or twice-daily oral dosing of SEP-786 could lead to control of serum calcium within the normal range in patients with hypoparathyroidism.

In vitro and *in vivo* safety studies support that SEP-786 has a favorable safety pharmacology profile. In 28-day, repeat, oral dose Good Laboratory Practice (GLP) toxicology studies in rats and dogs, SEP-786 was

generally well-tolerated. At doses significantly higher than projected human efficacious doses, sustained hypercalcemic effects on bone and kidney were observed that are consistent with on-target pharmacology.

Clinical Development Plan and Status of SEP-786

We have submitted a Clinical Trial Notification (CTN) in Australia to initiate a randomized, placebo-controlled, single-ascending dose (SAD) and multiple-ascending dose (MAD) Phase 1 clinical trial in healthy adult participants designed to assess preliminary safety, tolerability, PK, and PD of SEP-786. In the SAD portion of the trial, we plan to evaluate escalating oral doses of SEP-786. The MAD portion of the trial will evaluate once-daily and twice-daily oral dosing of SEP-786 for five days to evaluate safety and determine the optimal dosing regimen for serum calcium control. Secondary endpoints include PK, serum calcium, urinary calcium, and other biomarkers. We are initiating the Phase 1 clinical trial of SEP-786 and expect to report initial data from this trial in .

SEP-631: Oral Small Molecule MRGPRX2 NAM for CSU and Other Mast Cell Diseases

We are developing SEP-631, a selective, oral small molecule MRGPRX2 NAM, initially for the treatment of CSU. In preclinical studies, SEP-631 demonstrated potent and long-lasting inhibition of MRGPRX2, which is a highly and uniquely expressed receptor on mast cells and when activated is a key driver of CSU and other prevalent mast cell diseases. We have initiated IND-enabling studies of SEP-631 and upon completion, we anticipate submitting for regulatory clearance to initiate a clinical trial.

Overview of CSU

Disease Background and Role of MRGPRX2

CSU is a systemic inflammatory skin disease characterized by the spontaneous and recurrent appearance of itchy, painful hives, known as wheals, on the skin and angioedema, or swelling, that affects approximately 1.5 million patients in the United States. These chronic symptoms, which typically last between two and five years, can interfere with daily living, including the ability to work, and are frequently associated with psychiatric comorbidities, including depression and anxiety. Some patients with CSU report associated systemic symptoms including headache and fatigue, wheezing, flushing, palpitations, and gastrointestinal symptoms.

While there is no known trigger, the activation and degranulation of mast cells and release of histamine and other inflammatory mediators lead to these debilitating symptoms of CSU. Two canonical pathways represent the primary mechanisms for activation and degranulation of mast cells: activation of the IgE pathway via receptor cross-linking by antibodies targeting the high-affinity IgE receptor (FceRI) or IgE itself, and activation of an IgE-independent pathway via MRGPRX2. As depicted in Figure 5 below, upon activation, mast cells release a plethora of mediators leading to the hallmark symptoms of itching, redness, and swelling.

MRGPRX2 is highly expressed on the surface of mast cells and plays a critical role in mast cell activation and degranulation. This receptor is activated by a variety of stimuli, including neuropeptides, antimicrobial peptides, and certain drugs. Upon activation, MRGPRX2 triggers a signaling cascade that leads to the rapid release of pre-stored mediators such as histamine, proteases, and cytokines from mast cell granules. This degranulation process contributes to immediate hypersensitivity reactions and various inflammatory conditions. The unique ability of MRGPRX2 to respond to a broad range of ligands highlights its importance in host defense mechanisms and its potential as a therapeutic target for treating allergic and inflammatory diseases.

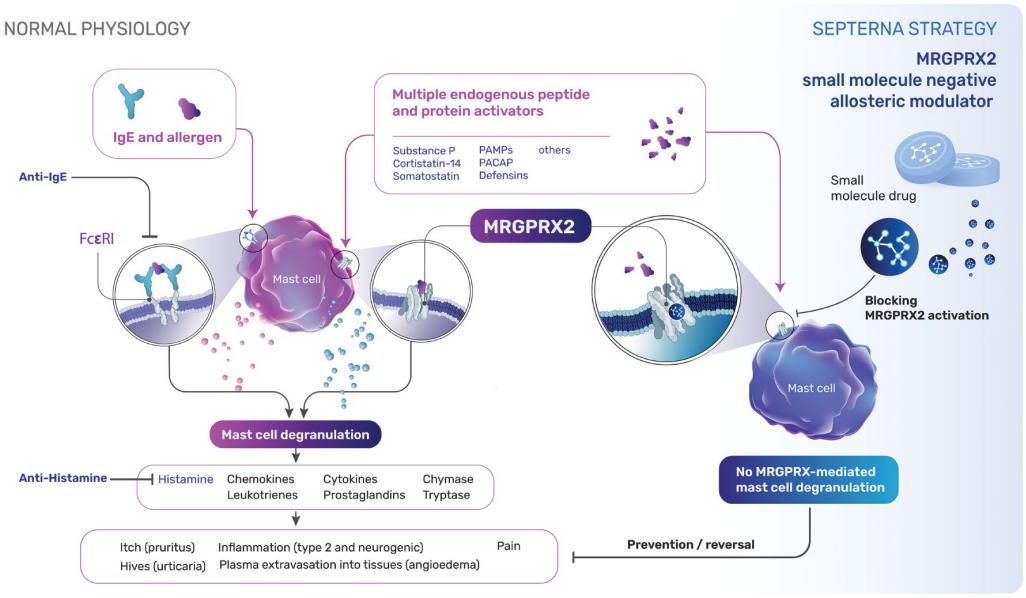


Figure 5. Overview of mast cell activation including the IgE-mediated and MRGPRX2-mediated degranulation pathways, physiologic effects of mast cell degranulation, and our strategy to develop a MRGPRX2 NAM to stop MRGPRX2-mediated mast cell degranulation.

Current Treatment Options and Their Limitations

Patients suffering from CSU are treated initially with antihistamines to control symptoms; however, approximately 37% of patients are inadequately controlled in this first-line setting. In the antihistamine-refractory setting, patients may be treated with omalizumab (marketed as Xolair by Novartis and Genentech), which is an injectable anti-IgE monoclonal antibody approved by the FDA as an add-on therapy for CSU in patients ages 12 years and older. The targeting and blocking of IgE-mediated inflammation can effectively address symptoms; however, only an estimated 36% of these antihistamine-refractory patients respond to anti-IgE therapy.

A significant proportion of patients have persistent symptoms with antihistamines and/or Xolair, highlighting substantial need for additional treatment options. With the expanding knowledge of the pathogenesis of CSU and the role of mast cells, novel therapeutic agents targeting distinct drivers of CSU are in development. We are aware of several new mechanisms, and programs are being explored in clinical trials, such as anti-Kit antibodies barzolvolimab and briquilimimab, Bruton's tyrosine kinase inhibitor remibrutinib, and antibody to sialic acid-binding immunoglobulin-like lectin lirentelimab.

Our Solution: Oral Small Molecule MRGPRX2 NAM

Our Program Strategy

We believe an oral small molecule that targets MRGPRX2 could provide a differentiated treatment option for patients with CSU. Our MRGPRX2 NAM program is designed to selectively inhibit mast cells, minimizing the risk of broad immunosuppression, which might be observed with other mechanistic approaches that either eradicate mast cells or inhibit multiple immune cell types. We believe selective mast cell inhibitors have the potential to be safer treatment alternatives and could be used for both monotherapy and combination therapy. With our NAM, we believe that we may be able to universally block all endogenous MRGPRX2 agonists and provide insurmountable inhibition, which will control patient symptoms and protect against disease flares.

We are developing SEP-631 initially for the treatment of CSU, as we believe this may provide an efficient path to clinical proof-of-concept. There remains a significant unmet need in CSU, since antihistamine-refractory patients have few oral treatment alternatives. Because multiple diseases are driven by activated mast cells, we believe there is a broad market opportunity to expand into indications across several therapeutic areas, such as allergic asthma, atopic dermatitis, interstitial cystitis, migraine, and prurigo nodularis.

Preclinical Activity of SEP-631

SEP-631 has been demonstrated to potently block the activation of intracellular signaling in HEK293 cells with overexpressed human MRGPRX2 stimulated by cortistatin-14 (IC_{50} = 1.6 nM). Experiments using a matrix of different concentrations of SEP-631 versus different concentrations of cortistatin-14 showed strong suppression of maximal agonist effects (Figure 6), which we believe demonstrates SEP-631 has the potential to be an insurmountable NAM.

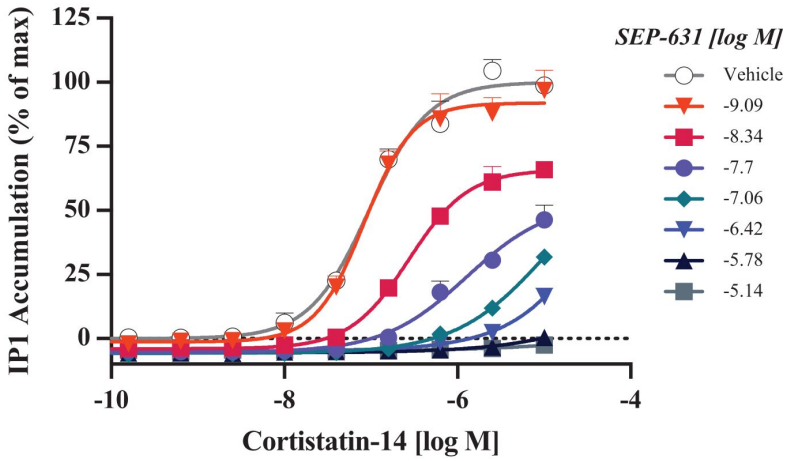


Figure 6. SEP-631 shows strong negative allosteric modulation of cortistatin-14 activation of MRGPRX2 in HEK293 cells expressing MRGPRX2.

SEP-631 can block IP1 accumulation in HEK293 cells expressing MRGPRX2 in response to activation by several clinically relevant endogenous MRGPRX2 agonists (Figure 7), demonstrating that its inhibitory effect is independent of the activating agonist (i.e., the inhibitor does not show probe dependence).

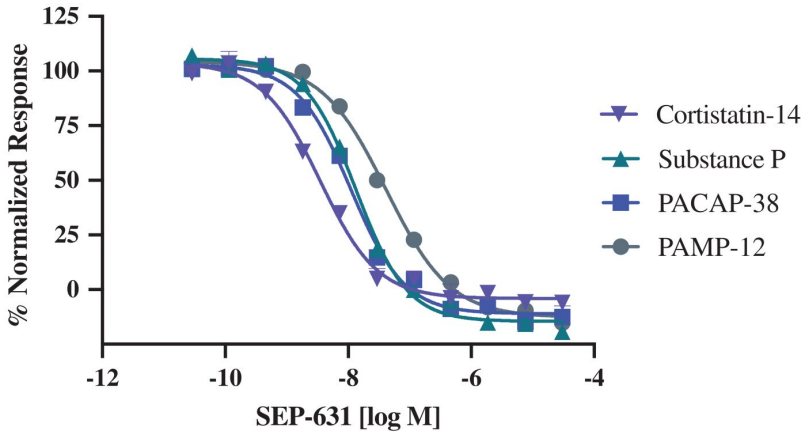


Figure 7. SEP-631 potently inhibits the activation of MRGPRX2 by a range of endogenous MRGPRX2 agonists.

In different *in vitro* cellular models of mast cell degranulation, SEP-631 was shown to be a potent inhibitor of activation and degranulation in LAD2 cells (IC_{50} = 2.3 nM) and primary human cord blood-derived mast cells (IC_{50} = 0.72 nM).

A differentiating feature of SEP-631 compared to other third-party MRGPRX2 inhibitors is its long target residence time or slow off-rate of inhibition, meaning it takes a long time for the receptor-ligand complex to dissociate and for the receptor to become activatable again. Two experimental approaches were taken to determine the half-life of the receptor-ligand complex: radioligand binding experiments and one surface plasmon resonance (SPR) study demonstrated long half-lives of 124 minutes (with a standard deviation of 20 minutes) and 50 minutes, respectively. Long target residence times of receptor ligands are recognized as being potentially advantageous for prolonged drug action *in vivo*, which have been shown to translate to enhanced clinical activity.

For characterization of SEP-631 *in vivo*, we developed a transgenic knock-in (KI) mouse model in which the coding region of the endogenous mouse MRGPRB2 receptor was replaced with the human MRGPRX2 receptor, due to the low sequence homology shared between the mouse and human orthologs. In this model, MRGPRX2 agonist ligands such as substance P or cortistatin-14 stimulate robust plasma extravasation, or edema, when injected into the skin. Extravasation can be quantitated by following the redistribution of Evans Blue dye from the circulation into skin tissue (Figure 8.A). In the MRGPRX2 KI mouse model, SEP-631 robustly inhibited skin extravasation when dosed orally prior to the cortistatin-14 challenge, demonstrating complete blockade of skin mast cell degranulation at an oral dose of 3 mg/kg (Figure 8.B).

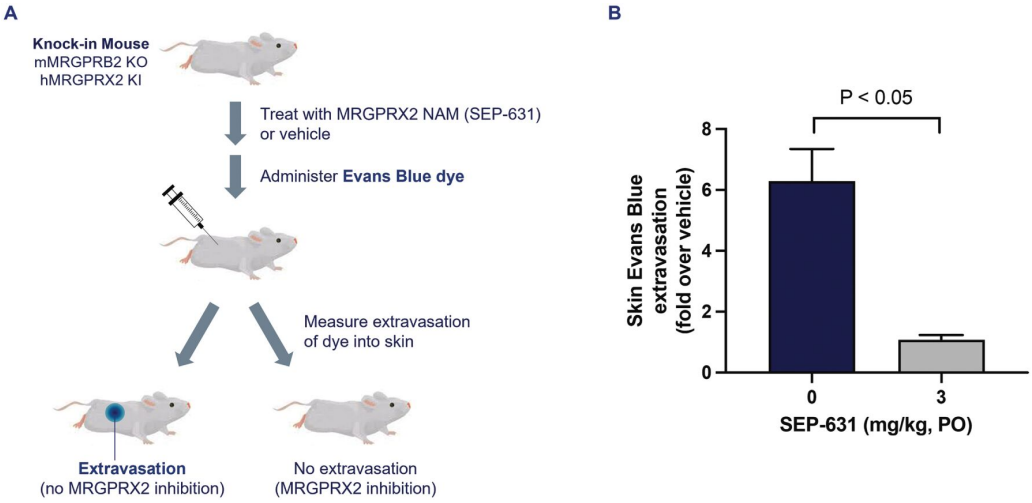


Figure 8. (A) Human MRGPRX2 KI mouse model of plasma extravasation into skin. (B) SEP-631 potently inhibited cortistatin-14 mediated plasma extravasation into skin in a human MRGPRX2 KI mouse model. PO = oral.

Preclinical Studies to Support Clinical Advancement of SEP-631

The preclinical drug metabolism and PK profile of SEP-631 across multiple species was determined to support human PK projections. SEP-631 has the potential to be highly orally bioavailable with low clearance and a projected half-life consistent with once-daily oral dosing.

In vitro and *in vivo* safety studies explored to date support that SEP-631 has a favorable tolerability profile. In 14-day repeat oral dose non-GLP toxicology in rats and dogs, SEP-631 was generally well tolerated with wide safety margins over projected maximal exposures at human efficacious doses. We have initiated 28-day GLP toxicology studies in rats and dogs.

Clinical Development Plan and Status of SEP-631

We plan to develop SEP-631 initially for patients with antihistamine-refractory CSU. SEP-631 is currently in IND-enabling studies, and upon completion, we anticipate submitting for regulatory clearance to initiate a Phase 1 clinical trial. The Phase 1 clinical trial is intended to be a SAD/MAD trial in healthy volunteers to assess safety, tolerability, PK, and PD.

In addition to CSU, we are evaluating a range of other indications in which aberrant mast cell activation has been demonstrated to be central to disease pathobiology. Mast cell activation drives multiple prevalent diseases, including allergic asthma, atopic dermatitis, interstitial cystitis, migraine, and prurigo nodularis, and we believe SEP-631 could offer a novel oral treatment option for these patient populations. We plan to explore these indications as potential future clinical development opportunities.

TSHR Program: Oral Small Molecule TSHR NAM for Graves' Disease and TED

We are developing a novel, oral small molecule TSHR NAM for the treatment of Graves' disease and TED. We believe our TSHR NAM could offer a disease-modifying treatment that directly addresses the pathobiology of both diseases by blocking TSHR overactivation caused by patients' autoantibodies. We are advancing several lead compounds towards selection of a development candidate for IND-enabling studies.

Overview of Graves' Disease and TED

Disease Background and Role of TSHR

Graves' disease is one of the most prevalent autoimmune conditions affecting over 2 million patients in the United States and is the leading cause of hyperthyroidism. In Graves' disease, the body produces autoantibodies that bind to and activate TSHR on thyroid cells (Figure 9). These autoantibodies stimulate the thyroid gland to produce excess thyroid hormone, resulting in hyperthyroidism. Thyroid hormones affect many body systems, so symptoms of Graves' disease can be wide ranging. Common symptoms of Graves' disease include anxiety and irritability, tremors, heat sensitivity, weight loss, rapid or irregular heartbeat, and sleep disturbance. Although Graves' disease may affect anyone, it is more common among women and people younger than age 40.

TED is a related, yet distinct, vision-threatening autoimmune condition that develops in approximately 50% of Graves' disease patients. In TED, autoantibodies bind to and activate TSHR on orbital fibroblasts located behind the eyes, thereby resulting in inflammation, orbital fat expansion, and fibrosis. TED is a progressive disease and early diagnosis and treatment is important to prevent worsening and serious eye damage, including proptosis (eye bulging), strabismus (misalignment of the eyes), and diplopia (blurred or double vision).

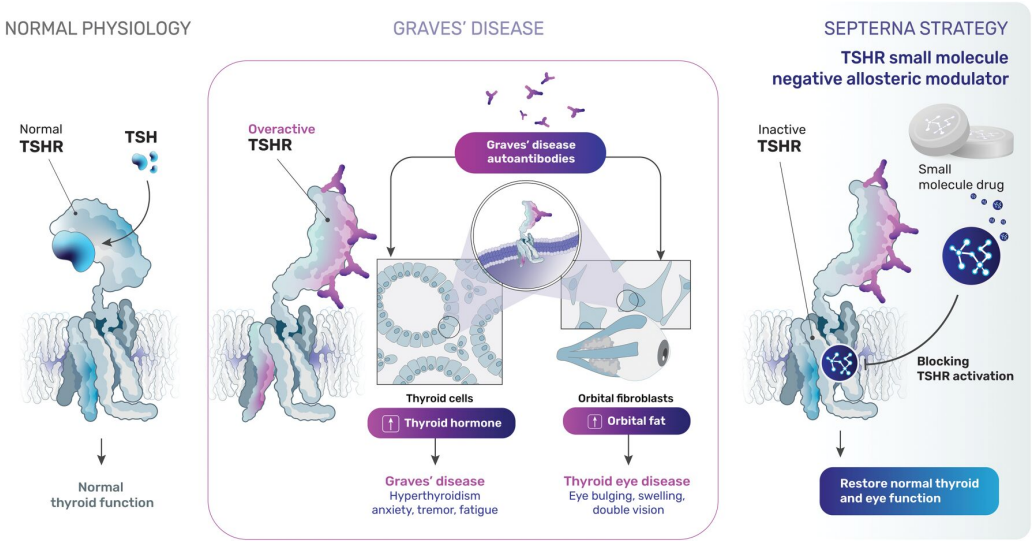


Figure 9. Overview of TSHR physiology, the role of TSHR autoantibodies in the pathogenesis of Graves' disease and TED, and our strategy to develop a TSHR NAM to reverse the effects of TSHR antibodies as a potential disease-modifying therapy for patients with Graves' disease and TED.

Current Treatment Options and Their Limitations

The most common treatments for Graves' disease have remained largely unchanged over the past 70 years and include antithyroid drugs, such as methimazole and propylthiouracil, designed to lower the amount of hormone the thyroid makes or block the effects of thyroid hormone on the body, radioactive iodine therapies that aim to destroy overactive thyroid cells, and thyroidectomy surgery to remove all or part of the thyroid. For many patients, there is a high rate of disease recurrence after treatment with antithyroid drugs, and lifelong hypothyroidism develops after ablation and thyroidectomy. In addition, these treatment options may initially address the underlying symptoms, but they are not disease-modifying and do not stop disease progression.

Current treatments for TED depend on disease severity and are designed to help manage symptoms and slow disease progression. For patients with mild TED, lifestyle changes and over-the-counter remedies, such as

artificial tear drops and selenium supplements, may help with dry eye relief. For severe TED, steroids and/or eye surgery, such as orbital decompression may be considered. Historically, patients have had to live with TED until the inflammation subsides, after which they are often left with permanent and vision-impairing consequences and may require multiple surgeries that do not completely return the patient to their pre-disease state. In 2020, the FDA approved TEPEZZA (teprotumumab-trbw), an anti-IGF-1R human monoclonal antibody, for the treatment of TED based on its ability to decrease proptosis and resolve diplopia in patients. Despite reaching global sales of $2.0 billion in 2022, TEPEZZA requires several IV infusions over several months and has risks of serious side effects, including hearing loss and metabolic issues, such as hyperglycemia.

Our Solution: Oral Small Molecule TSHR NAM

Our Program Strategy

We believe there is a significant unmet need for a disease-modifying approach that directly addresses the pathobiology of both Graves' disease and TED. Our highly selective, oral small molecule TSHR NAM program is designed to block the activation of TSHR by autoantibodies and could lead to a universal treatment option for all Graves' disease and TED patients. Our NAMs are designed to provide insurmountable inhibition, thus potentially providing protection for patients with high serum antibody levels and for patients with polyclonal activating antibodies.

With few innovative, non-surgical or ablative treatments, we believe that there is a significant unmet need in Graves' disease. While treatments exist for TED, they are focused on the most severe patients, so an oral small molecule TSHR NAM, could provide a new option for all TED patients. Because over-stimulation of TSHR is at the center of Graves' disease and TED, we believe that if we can treat Graves' disease patients early in their disease course with our oral small molecule TSHR NAM, our treatment may be able to prevent the progression to other manifestations of the disease, such as TED or Graves' dermopathy.

Discovery and Preclinical Activity of Oral TSHR NAMs

We have used our Native Complex Platform™ to identify multiple tractable chemical series of oral small molecule TSHR NAMs. Molecular pharmacology studies with TSHR NAMs have demonstrated multiple compound series with high potencies and desired drug-like properties. In cells expressing human TSHR, cAMP signaling activated by an autoantibody isolated from a Graves' disease patient was significantly inhibited with several of our lead compounds. In addition, our compounds exhibit high selectivity for inhibition of TSHR over a broad set of other GPCRs.

An effective treatment for both Graves' disease and TED will require broad inhibition of patient autoantibodies, which are typically high affinity and present at high titers during active disease. Furthermore, these autoantibodies may bind to different sites on the large extracellular domain of TSHR. We believe a TSHR NAM is the ideal pharmacologic profile to fully block the activity of all patient autoantibodies.

Experiments using a matrix of different concentrations of one of our oral small molecule TSHR NAMs (SP-1351) versus different concentrations of a Graves' disease patient activating autoantibody showed strong suppression of maximal agonist effects on TSHR, even when the agonist antibody is applied at high concentrations (Figure 10). We believe these results suggest that the antibody cannot overcome the inhibitory effects of our compound, and that our NAM has the potential to exert insurmountable inhibition of TSHR activation by the autoantibody.

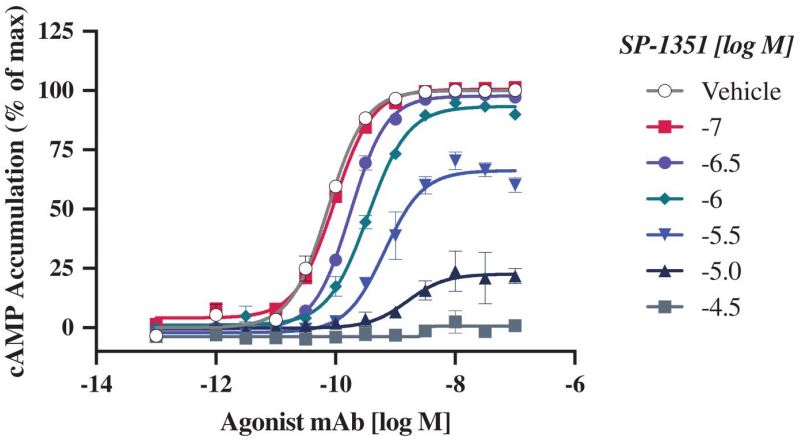


Figure 10. SP-1351 shows strong TSHR NAM in HEK293 cells stimulated with a Graves' disease patient-derived autoantibodies against TSHR. mAb = monoclonal antibody.

To demonstrate that our TSHR NAM can fully inhibit multiple patient autoantibodies, we assessed the activity of SP-1351 against Graves' disease patient-derived polyclonal sera applied to TED patients' orbital fibroblasts. Fibroblast activation by the sera is measured by quantifying hyaluronic acid production by the cells. SP-1351 was able to inhibit the activity of 10 out of 10 polyclonal sera samples, each from a different Graves' disease patient (Figure 11). This result suggests broad inhibitory activity of our TSHR NAMs against the diverse range of polyclonal autoantibodies found in Graves' disease patients.

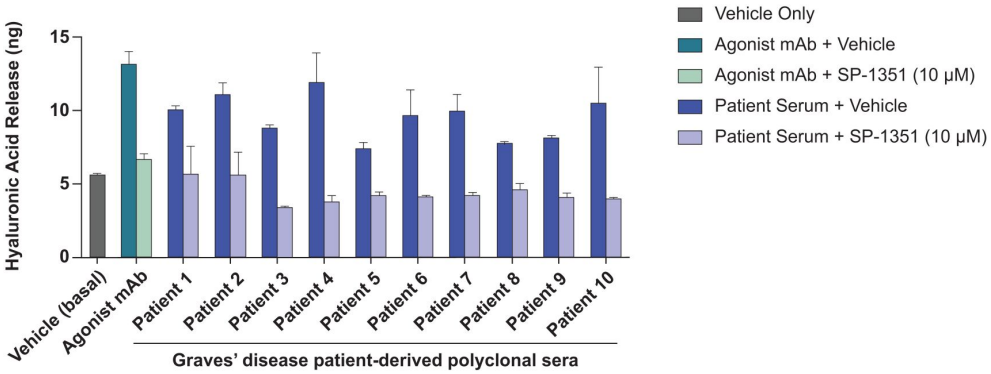


Figure 11. SP-1351 inhibits activation of primary orbital fibroblasts by all 10 polyclonal serum samples collected from Graves' disease patients. mAb = monoclonal antibody.

To characterize the effects of these oral TSHR NAMs on disease manifestations *in vivo*, we developed a translational mouse model of hyperthyroidism (Figure 12.A). Mice chronically treated with a Graves' disease patient-derived TSHR-activating antibody developed multiple manifestations similar to Graves' disease patients

including increased plasma thyroid hormone T4 levels (Figure 12.B), increased thyroid weight (Figure 12.C), and proptosis (Figure 12.D). After one week of SP-1351 treatment with repeat oral dosing, several of these manifestations showed signs of reversal including normalization of thyroid hormone T4 levels, reduction in thyroid weight, and reduction of proptosis.

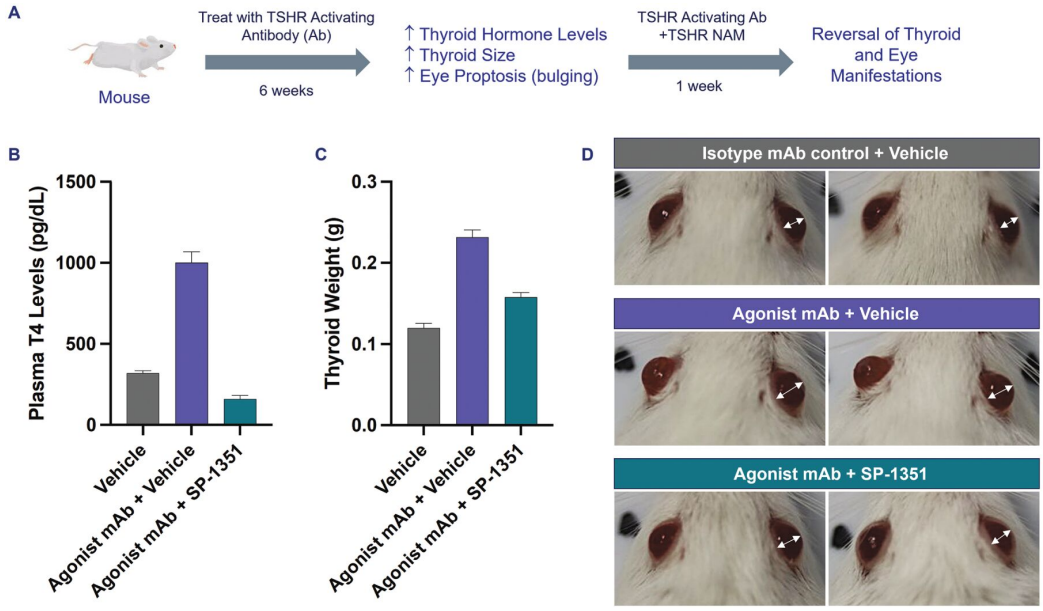


Figure 12. (A) Translational *in vivo* mouse model of Graves' disease. (B,C,D) SP-1351 demonstrates reversal of the hyperthyroid state and proptosis in mice chronically treated with a monoclonal TSHR autoantibody. mAb = monoclonal antibody.

In the same mouse model, effects on thyroid tissue were assessed. Thyroid glands of Graves' disease patients are characterized by follicular hyperplasia and/or hypertrophy, intracellular colloid droplets, follicular colloid reduction and scalloping, increased vascularity and lymphocyte infiltration, all of which manifest in our mouse disease model. After oral treatment with SP-1351, we observed significant reduction in follicular hypertrophy and colloid droplets.

Next Steps

We are continuing to optimize multiple early-stage oral small molecule TSHR NAMs, with the goal of advancing lead compounds towards selection of a development candidate for IND-enabling studies. In our preclinical studies, we have identified multiple TSHR NAMs that demonstrated the ability to reverse hyperthyroidism and proptosis in a novel mouse model of Graves' disease and inhibit of multiple Graves' disease patient TSHR autoantibodies in cell-based assays using primary human cells. We intend to pursue future clinical development of our TSHR NAM program for the treatment of Graves' disease and TED.

Incretin Programs – Oral Small Molecule Single- and Multi-Incretin Receptor Agonists for Metabolic Disorders Including Obesity and T2D

Based on unique chemical and structural insights obtained with our Native Complex Platform™, we believe we have an opportunity to discover and develop novel, next-generation, oral small molecules as selective single- or multi-acting GLP-1, GIP, glucagon receptor agonists. We are advancing several lead compounds towards selection of one or more development candidates for IND-enabling studies.

Overview of Obesity and T2D

Disease Background and Role of Incretins

Obesity and diabetes are two of the most prevalent chronic diseases in the world, affecting a combined total of more than 800 million people, and are associated with severe health complications, including cardiovascular disease and kidney failure, as well as an increased risk of death. Obesity is defined as having a BMI of greater than or equal to 30 and is associated with more than 200 comorbidities, including diabetes, which can lead to blindness, limb amputations, and the need for dialysis. Despite increased awareness about obesity as a global epidemic and the advancement of new treatments, no country has reported a decline in obesity prevalence across its entire population. It is predicted that 1.55 billion people will be living with obesity globally by 2030.

More than 400 million people worldwide live with diabetes and approximately 90% of all diabetes cases are T2D, which is a chronic disease involving sustained high levels of glucose in the bloodstream. Under normal conditions, insulin is produced by the pancreas, enabling glucose to enter cells to provide energy needed for normal tissue and organ function. T2D results from either the pancreas not producing enough insulin or the body's cells not responding normally to insulin, known as insulin resistance. Uncontrolled diabetes can lead to severe health complications, such as an increased risk of heart attack, stroke, neuropathy, kidney failure, limb amputations, and vision loss. The key risk factors for developing T2D include obesity, genetic predisposition, a sedentary lifestyle, or a history of gestational diabetes. Moreover, T2D and obesity are considered co-morbidities, with 90% of people with T2D being overweight or obese.

Incretins (e.g., GLP-1, GIP, and glucagon) are a group of metabolic hormones that, along with their associated receptors, play significant roles in glucose metabolism and homeostasis (Figure 13). GLP-1 and GIP are secreted in the intestinal tract after eating, and subsequently activate their respective receptors expressed on pancreatic beta cells, to stimulate insulin secretion in a glucose-dependent manner. Glucagon activates its related receptors expressed on pancreatic alpha cells, to counteract the actions of insulin by stimulating hepatic glucose production and thereby increases blood glucose levels in a glucoregulatory role. The widespread therapeutic effects of GLP-1 and GIP receptor agonism in patients with diabetes are well-documented and include slowing of gastric emptying, increased satiety, reduction of food intake, promotion of weight loss, and reduction of cardiovascular disease morbidity and mortality. Moreover, there is a complex interplay between the actions of GLP-1, GIP, and glucagon, and recent clinical data from the triagonist injectable peptide retatrutide (in development by Eli Lilly and Company) indicate there are potential additional efficacy benefits on weight loss and its maintenance.

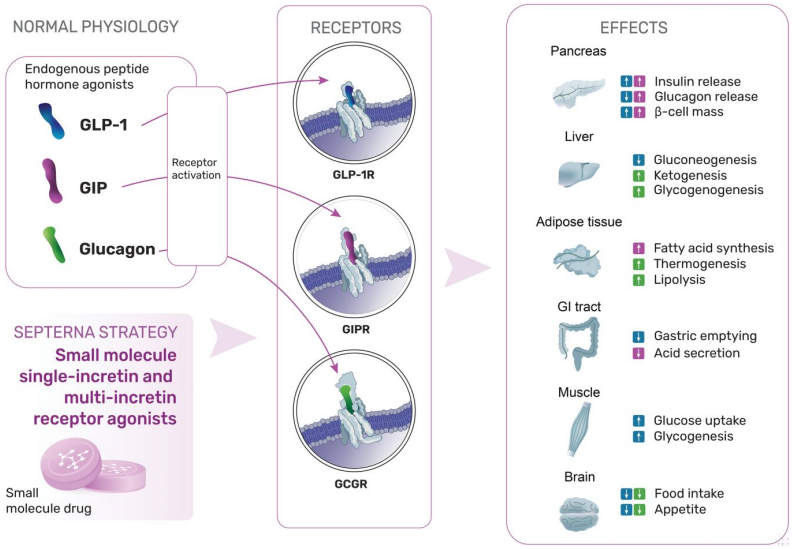


Figure 13. Overview of the physiologic effects of GLP-1, GIP, glucagon acting through their respective receptors GLP-1R, GIPR, and GCGR, and our strategy to develop oral small molecule single- and multi-incretin receptor agonists.

Current Treatment Options and Their Limitations

Standard treatment for obesity and T2D is lifestyle change through a combination of diet, exercise, and behavior therapy, and, in the case of T2D, metformin. According to the 2022 ADA Standards of Medical Care in Diabetes, management of obesity is an important factor in the treatment of diabetes since even a small degree of weight loss can improve blood glucose levels, resulting in a decreased need for glucose-lowering medications. While lifestyle modifications can produce weight loss, the magnitude required for disease modification is approximately 10% to 15% of total body weight.

In recent years, several injectable peptide agonists targeting incretins have been approved for the treatment of T2D, and, due to their ability to increase feelings of fullness, decrease appetite, and effectively promote weight loss, for the treatment of obesity. Third-party clinical data with incretin receptor therapeutics have demonstrated substantial and sustained reductions in body weight, as well as the ability to lower blood glucose and improve glycated hemoglobin (HbA1c). Global sales in 2023 for Ozempic and Wegovy (semaglutide), and Mounjaro and Zepbound (tirzepatide) were $18.4 billion and $5.3 billion, respectively. While the benefits of currently marketed GLP-1 and dual GLP-1/GIP receptor agonists are well-documented in patients with diabetes and obesity, they suffer from several limitations including tolerability, prolonged titration schemes, and injection administration, and supply challenges. The most frequent adverse events with GLP-1 receptor agonists are GI-related issues, including nausea, vomiting, and diarrhea, which necessitate dose titration protocols to manage treatment and often contribute to treatment discontinuation. Finally, certain doses of semaglutide and tirzepatide are currently on several global health authorities' drug shortage lists, highlighting the need for additional scalable treatment options.

Beyond currently available treatment options, we are aware of numerous injectable peptides in clinical development that are exploring the combination of agonist activities at the GLP-1, GIP, and glucagon receptor metabolic targets. In addition, orally administered GLP-1 receptor small molecules are being clinically evaluated.

Our Solution: Oral Small Molecule Single- and Multi-Incretin Receptor Agonists

Our Program Strategy

We believe there remains a significant unmet need in the treatment of diabetes, obesity and other cardiometabolic disorders to discover and develop products that can deliver the activity of mono- or multi-acting injectable peptide agonists, like semaglutide or tirzepatide, but as oral small molecules. By exploring novel, single-acting or various multi-acting GLP-1, GIP and glucagon receptor agonists, we believe that we have the potential to discover and develop oral products that have the potential to increase patient convenience and compliance, and to improve tolerability, ultimately expanding the treated population. Given the significant market opportunity, we are leveraging our Native Complex Platform™ to discover novel scaffolds across various product profiles to explore multiple different treatment options for patients.

Discovery and Preclinical Activity of Oral Incretin Receptor Agonists

We have used our Native Complex Platform™ to identify multiple tractable chemical series of oral small molecule incretin receptor agonists. Structural biology demonstrated that our compounds occupy novel binding sites, distinct from the known orthosteric binding sites occupied by clinical-stage small molecules, danuglipron and orforglipron. Analysis of the respective binding sites show a high similarity of more than 80-90% for GLP-1, GIP, and glucagon receptors, in contrast to the modest similarity of approximately 40-60% at the danuglipron and orforglipron orthosteric sites.

Our portfolio of discovery-stage incretin receptor agonists includes several potent, selective mono-GIPR receptor agonists, dual-GIPR / GCGR agonists, and triple-GLP-1R / GIPR / GCGR agonists (Figure 14).

	Mono-GIPR Agonist	Dual-GIPR / GCGR Agonist	Triple-GLP-1R / GIPR / GCGR Agonist
EC_{50}	SP-3561	SP-7606	SP-2297
GIPR	3.1 nM	3.8 nM	2.4 nM
GCGR	190 nM	17 nM	14 nM
GLP-1R	>30,000 nM	16,000 nM	330 nM

Figure 14. Cell-based assay activity of exemplar incretin receptor agonists: cAMP readout in recombinant cells overexpressing GIPR, GLP-1R, or GCGR.

Favorable physicochemical and *in vitro* drug metabolism properties of one of our selective mono-GIPR agonists, SP-3561, translated into promising PK in mice with low clearance and high oral bioavailability. Subsequent evaluation of SP-3561 in an oral-glucose tolerance test (OGTT) in diet-induced obese (DIO) mice (Figure 15.A) demonstrated significant dose-dependent glucose reduction at oral doses of 10 and 30 mg/kg (Figure 15.B,C). DIO mice were fasted overnight, and 30 minutes after oral dosing of SP-3561 a glucose challenge was administered, and blood glucose levels were monitored for two hours after dosing. At 30 mg/kg, SP-3561 demonstrated effective glucose control comparable to retatrutide (clinically studied triple-GLP-1R / GIPR / GCGR injectable peptide agonist) dosed subcutaneously (Figure 15.B,C).

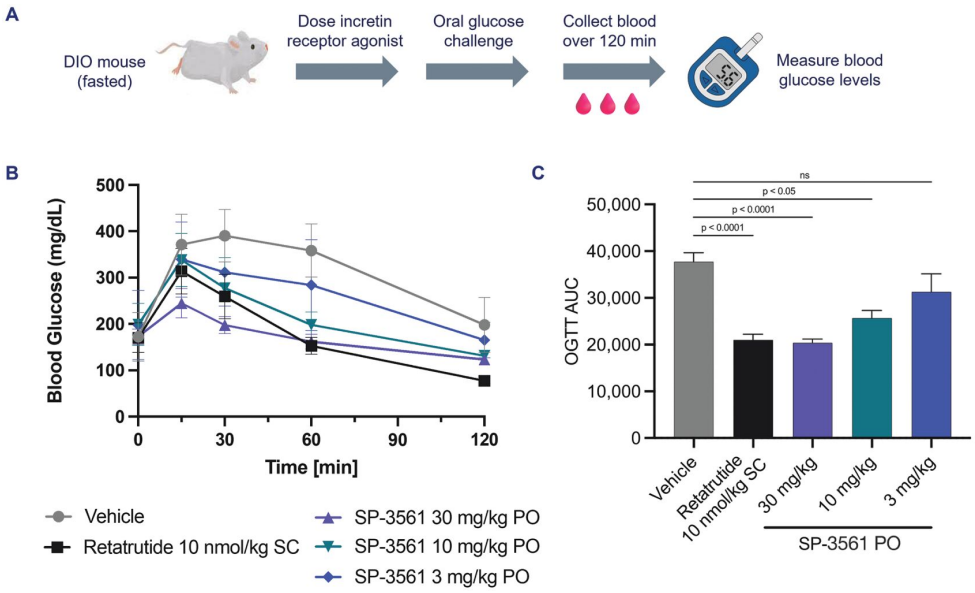


Figure 15. (A) OGTT model with DIO mice. (B,C) SP-3561 improves oral glucose tolerance in the DIO mouse model comparable to retatrutide. PO = oral, SC = subcutaneous.

Next Steps

We have identified potent, selective mono-GIPR agonists, dual-GIPR / GCGR agonists, and triple-GLP-1R / GIPR / GCGR agonists. Exemplars across our portfolio of oral small molecule incretin receptor agonists with favorable PK properties have demonstrated the ability to achieve glucose control in mouse models of glucose sensitivity. We plan to conduct preclinical studies to assess the utility of these compounds in weight loss models as single agents or in combination with established weight loss agents (e.g., GLP-1R agonist peptides or small molecules). We are continuing to optimize multiple early-stage oral small molecule incretin receptor agonists, with a goal of advancing lead compounds towards selection of one or more development candidates for IND-enabling studies.

Competition

The pharmaceutical and biotechnology industries are characterized by rapidly advancing technologies, intense competition, and a strong emphasis on proprietary and novel products and product candidates. While we believe our product candidates, platform, knowledge, experience and scientific personnel provide us with several key competitive advantages, we face competition from major pharmaceutical and biotechnology companies, academic institutions, governmental agencies and public and private research institutions, among others. Our future success will depend in part on our ability to maintain a competitive position with our structure-based drug discovery platform. If we fail to stay at the forefront of technological change in utilizing our platform to create and develop product candidates, we may be unable to compete effectively. Our competitors may render our approach obsolete by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages in our drug discovery process that we believe we derive from our research approach and platform. Several other companies also focus on GPCRs and have platform technologies that are distinct from our Native Complex Platform™, including Nxera Pharma (formerly Sosei Heptares), Structure Therapeutics, Tectonic Therapeutics, and Confo Therapeutics.

In addition, any product candidates that we successfully develop and commercialize, including SEP-786 and SEP-631, may compete with existing therapies and new therapies that may become available in the future that are approved to treat the same diseases for which we may obtain approval for our product candidates. There are several large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of product candidates for the treatment of the indications that we are pursuing. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

We are aware of pharmaceutical companies that have commenced clinical studies of products or have successfully commercialized products addressing areas that we are targeting. Takeda owns the rights to an injectable parathyroid hormone product (brand name NATPARA), for the treatment of hypoparathyroidism. NATPARA was voluntarily recalled in September 2019 in the United States due to manufacturing issues and is now only available to a limited number of patients through a Special Use Program offered by its manufacturer. In October 2022, Takeda announced manufacturing of all strengths of NATPARA will be discontinued globally by the end of 2024. Ascendis Pharma received regulatory approval for a proprietary once-daily injectable PTH peptide, palopegteriparatide (brand name YORVIPATH), in Europe and submitted a New Drug Application (NDA), which is currently being reviewed by the FDA, with a Prescription Drug User Free Act (PDUFA) date of August 14, 2024. In March 2024, AstraZeneca acquired Amolyt Pharma, who was developing eneboparatide, a proprietary, once-daily injectable PTH peptide, for hypoparathyroidism, currently in Phase 3 trials. In addition, we are aware of several academic groups and companies working on making longer-acting agonists of PTH1R. Other companies and groups are developing or commercializing therapies for hypoparathyroidism, including Calcilytix (a BridgeBio company), Entera Bio, Extend Biosciences, and MBX Biosciences. Several companies are developing clinical-stage small molecule MRGPRX2 inhibitors, including Escient Pharmaceuticals (acquired by Incyte Pharmaceuticals in April 2024), Evommune, and BioArdis. Further there are several other companies pursuing therapies for CSU addressing other receptors of interest, such as Genentech, Sanofi, Celldex

Therapeutics, Jasper Therapeutics, Acelyrin, Allakos, Novartis, Third Harmonic Bio, and Blueprint Medicines. For TSHR, we are aware that Byondis and Crinetics are also working on research stage compounds, but they have not yet entered clinical development. In addition several companies are working on other mechanisms to address Graves' disease, such as Immunovant, and TED, including Amgen, Viridian, Argenx, Roche, Lassen Therapeutics, Tourmaline Bio, Sling Therapeutics, and Acelyrin. There are also several currently approved injectable products targeting incretin receptors for the treatment of obesity or T2D. These include, but are not limited to, products such as Ozempic and Wegovy (semaglutide, marketed by Novo Nordisk) for T2D and obesity, respectively, Trulicity (dulaglutide, marketed by Eli Lilly and Company) for T2D, and Mounjaro and Zepbound (tirzepatide, marketed by Eli Lilly and Company) for T2D and obesity, respectively. There are also several injectable peptide products in development pursuing similar indications with similar mechanism of actions along with combination products, including those being developed by Amgen, AstraZeneca, Boehringer Ingelheim, Eli Lilly and Company, Novo Nordisk, Roche, and Viking, among others. In addition, there are oral products such as Rybelsus (semaglutide, marketed by Novo Nordisk) approved for patients with T2D and other oral products in development for treating obesity or T2D, including those being developed by AstraZeneca, Eli Lilly and Company, Pfizer, Roche, Structure, and Terns. Based on our continuing evaluations of the competitive landscape, we may decide to reallocate resources and reprioritize our development programs if we determine that a particular product candidate or target indication is no longer commercially viable or advantageous.

Many of our competitors, either alone or with their collaborators, have significantly greater financial, technical, manufacturing, marketing, sales and supply resources or experience than we do. If we successfully obtain approval for any product candidate, we will face competition based on many different factors, including the safety and effectiveness of our products, the timing and scope of marketing approvals for these products, the availability and cost of manufacturing, marketing and sales capabilities, price, reimbursement coverage and patent position. Competing products could present superior treatment alternatives, including by being more effective, safer, more convenient, less expensive or marketed and sold more effectively than any products we may develop. Competitive products may make any products we develop obsolete or noncompetitive before we recover the expense of developing and commercializing our product candidates. 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.

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 side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other applicable regulatory approval 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. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic products. There are generic products currently on the market for certain of the indications that we are pursuing and additional products are expected to become available on a generic basis over the coming years. If our product candidates are approved, we expect that they will be priced at a significant premium over competitive generic products.

Manufacturing and Supply

We do not own or operate manufacturing facilities for the production of our product candidates and currently have no immediate plans to build our own clinical or commercial scale manufacturing capabilities. We have engaged, and expect to continue to rely on, third-party contract manufacturing organizations (CMOs) to supply our product candidates for use in our preclinical studies and clinical trials.

Additionally, we intend to rely on third-party manufacturers for later-stage development and commercial manufacturing if our product candidates receive marketing approval. As our current or future product candidates advance through clinical development, we expect to enter into longer-term commercial supply agreements to fulfill and secure our production needs. While the drug substances used in our product candidates are

manufactured by more than one supplier, the number of manufacturers is limited. In the event it is necessary or advisable to acquire supplies from an alternative supplier, we might not be able to obtain them on commercially reasonable terms, if at all. It could also require significant time and expense to redesign our manufacturing processes to work with another company. If we need to change manufacturers during the clinical or development stage for product candidates or after commercialization for our product candidates, if approved, the FDA, European Medicines Agency (EMA), and other comparable foreign regulatory authorities must approve these new manufacturers in advance, which will involve testing and additional inspections to ensure compliance with FDA regulations and standards and may require significant lead times and delay. Reliance on third-party manufacturers and CMOs may expose us to different risks than if we were to manufacture and develop product candidates ourselves. Should any of these manufacturers become unavailable to us for any reason, we believe that there are a number of potential replacements, although we may incur some delay in identifying and qualifying such replacements.

We have personnel with extensive technical, manufacturing, analytical, and quality experience to oversee contract manufacturing and testing activities, and to compile manufacturing and quality information for our regulatory submissions.

Intellectual Property

Our intellectual property is critical to our business and we strive to protect it, including by pursuing and, once obtained, by maintaining patent protection in the United States and in selected foreign jurisdictions for our current and future product candidates, new therapeutic approaches and potential indications, and other inventions that are important to our business. We also rely on the skills, knowledge, and experience of our scientific and technical personnel, as well as that of our advisors, consultants, contractors, and collaborators. To help protect our proprietary know-how that we elect not to patent, such as our proprietary Native Complex Platform™, processes for which patents are difficult to enforce, and any other elements of our current or future product candidates, technology and product discovery and development processes that involve proprietary know-how, information, or technology that is not covered by patents, we rely on confidentiality and other agreements to protect our interests. We generally require our employees, consultants, scientific advisors and contractors to enter into confidentiality agreements prohibiting the disclosure of our confidential information and requiring disclosure and assignment to us of their ideas, developments, discoveries and inventions important to our business. In addition, we also plan to rely on regulatory protection based on orphan drug exclusivities, data exclusivities, and market exclusivities. See the subsection section titled "—Government Regulation" for additional information.

The patent positions of biotechnology and pharmaceutical companies like us are generally uncertain and can involve complex legal, scientific, and factual issues. We cannot predict whether the patent applications we are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient proprietary protection from competitors. We also cannot ensure that patents will issue with respect to any patent applications that we may file in the future, nor can we ensure that any of our patents or future patents will be commercially useful in protecting our current or future product candidates and methods of using or manufacturing the same. In addition, the coverage claimed in a patent application may be significantly reduced before a patent is issued, and its scope can be reinterpreted and even challenged after issuance. As a result, we cannot guarantee that any of our current or future product candidates, if they obtain required regulatory approvals, will be protectable or remain protected by enforceable patents. Moreover, any patents that we hold may be challenged, circumvented, or invalidated by third parties.

Our commercial success will also depend in part on our ability to operate without infringing the proprietary intellectual property rights of third parties, and in part on our ability to prevent others from infringing our proprietary rights. It is uncertain whether the issuance of any third-party patent would require us to alter our development or commercial strategies, or our future drugs or processes, obtain licenses, or cease certain activities. Our breach of any license agreements or failure to obtain a license to proprietary rights that we may require to develop or commercialize our future drugs may have an adverse impact on us. See "Risk Factors—Risks Related to Intellectual Property" for a more comprehensive description of risks related to our intellectual property.

Patent Applications

We generally file patent applications directed to our current or future product candidates in an effort to secure our intellectual property positions vis-à-vis these programs. For our current or future product candidates, we will, in general, initially pursue patent protection covering compositions of matter and therapeutic methods of use. Throughout the development of our current or future product candidates, we will seek to identify additional means of obtaining patent protection that would potentially enhance commercial success, including by protecting inventions related to additional methods of use, processes of making, formulations and dosing regimens. The intellectual property portfolios for our current product candidates as of July 28, 2024 are summarized below.

Small Molecule Agonists of PTH1R

We own four patent families directed to certain small molecule agonists of PTH1R and therapeutic methods of using them. As of July 28, 2024, we have two pending Patent Cooperation Treaty (PCT) patent applications, nine pending foreign applications, and two pending United States provisional patent applications. Any patents that may issue from patent applications in these families (or in the case of provisional applications, if issued from future non-provisional applications that we file) are projected to expire between 2043 and 2045, absent any disclaimers or potentially available patent term extensions or adjustments.

Small Molecule Inhibitors of MRGPRX2

We own one patent family directed to certain small molecule inhibitors of MRGPRX2 and therapeutic methods of using them. As of July 28, 2024, we have one pending PCT patent application and seven pending foreign applications. Any patents that may issue from patent applications in this family (or in the case of provisional applications, if issued from future non-provisional applications that we file) are projected to expire in 2044, absent any disclaimers or potentially available patent term extensions or adjustments.

Small Molecule Inhibitors of TSHR

For our TSHR program, we own two patent families directed to certain small molecule inhibitors of TSHR and therapeutic methods of using them. As of July 28, 2024, we have one pending PCT patent application and one pending United States provisional patent application. Any patents that may issue from patent applications in these families (or in the case of provisional applications, if issued from future non-provisional applications that we file) are projected to expire between 2043 and 2045, absent any disclaimers or potentially available patent term extensions or adjustments.

Small Molecule Agonists of Incretin Receptors

For our incretin programs, we own four patent families directed to certain small molecule single- and multi-incretin agonists, incretin receptors, and therapeutic methods of using them. As of July 28, 2024, we have five pending United States provisional patent applications. Any patents that may issue from patent applications in these families (or in the case of provisional applications, if issued from future non-provisional applications that we file) are projected to expire between 2044 and 2045, absent any disclaimers or potentially available patent term extensions or adjustments.

Patent Term Extensions

In the United States, the term of a patent covering an FDA-approved drug may, in certain cases, be eligible for a patent term extension under the Hatch-Waxman Act as compensation for the loss of patent term during the FDA regulatory review process. The period of extension may be up to five years, but cannot extend beyond a total of 14 years from the date of product approval. Only one patent among those eligible for an extension and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be

extended. Similar provisions are available in Europe and in certain other jurisdictions to extend the term of a patent that covers an approved drug. If one or more of our pending United States patent applications are issued as United States patents covering our current or future products or their therapeutic use it is possible that the patents may be entitled to patent term extensions. If a therapeutic use of a drug candidate or the drug candidate itself receives FDA approval, we intend to apply for patent term extensions, if available, to extend the term of patents that cover the approved use or drug candidate. We also intend to seek patent term extensions in any other jurisdictions where available. However, there is no guarantee that the applicable authorities, including the FDA, will agree with our assessment of whether such extensions should be granted and even if granted, the length of such extensions.

Trade Secrets & Know-how

In addition to patent protection, we also rely on trade secrets, trademarks, proprietary information, confidential know-how, and continuing technological innovation to develop and maintain our competitive position. Our trade secrets, proprietary information, and confidential know-how includes our Native Complex Platform™. However, trade secrets, proprietary information, and confidential know-how can be difficult to protect. We seek to protect our trade secrets, proprietary information, and confidential know-how, in part, using confidentiality agreements with any collaborators, scientific advisors, employees, and consultants and invention assignment agreements with our employees. We also have agreements requiring assignment of inventions with selected consultants, scientific advisors, and collaborators. These agreements may not provide adequate protection. These agreements may also be breached, and we may not have an adequate remedy for any such breach. In addition, our trade secrets, proprietary information, and confidential know-how may become known or be independently developed by a third party, or misused by any collaborator to whom we disclose such information. Despite any measures taken to protect our intellectual property, unauthorized parties may attempt to copy aspects of our current or future products or obtain or use information that we regard as proprietary. Although we take steps to protect our proprietary information, third parties may independently develop substantially the same or similar proprietary information and techniques or may otherwise gain access to our proprietary information. As a result, we may not be able to meaningfully protect our trade secrets, proprietary information, and confidential know-how. For more information regarding the risks related to our intellectual property, see the section titled “Risk Factors—Risks Related to Intellectual Property.”

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries and jurisdictions, including the European Union (EU), extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, post-approval monitoring and reporting, and import and export of pharmaceutical products. The processes for obtaining regulatory approvals in the United States and in foreign countries and jurisdictions, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

Review and Approval of Drugs in the United States

In the United States, the FDA regulates drugs under the U.S. Federal Food, Drug, and Cosmetic Act (FDCA) and its implementing regulations. The failure to comply with applicable U.S. requirements at any time during the product development process, approval process or after approval may subject an applicant and/or sponsor to a variety of administrative or judicial sanctions, including refusal by the FDA to approve pending applications, withdrawal of an approval, imposition of a clinical hold, issuance of warning letters and other types of letters, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement of profits, or civil or criminal investigations and penalties brought by the FDA and the U.S. Department of Justice or other governmental entities. In addition, an applicant may need to recall a product.

An applicant seeking approval to market and distribute a new drug product in the United States must typically undertake the following:

- completion of nonclinical, or preclinical, laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice (GLP) regulations;
- submission to the FDA of an IND which must take effect before human clinical trials may begin;
- approval by an institutional review board (IRB) representing each clinical site before each clinical trial may be initiated at that site;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices (GCPs) to establish the safety and efficacy of the proposed drug product for each indication;
- preparation and submission to the FDA of an NDA and payment of user fees;
- review of the product by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with current Good Manufacturing Practices (cGMP) requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity;
- satisfactory completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data;
- FDA review and approval of the NDA; and
- compliance with any post-approval requirements, including risk evaluation and mitigation strategies (REMS) and post-approval studies required by the FDA.

Preclinical Studies

Before an applicant begins testing a compound in humans, the drug candidate enters the preclinical testing stage. Preclinical studies include laboratory evaluation of the purity and stability of the manufactured drug substance or active pharmaceutical ingredient (API) and the formulated drug or drug product, as well as *in vitro* and animal studies to assess the safety and activity of the drug for initial testing in humans and to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations. Some long-term preclinical testing, such as animal tests of reproductive adverse effects and carcinogenicity, may continue after the IND is submitted.

The IND and IRB Processes

An IND is an exemption from the FDCA that allows an unapproved drug to be shipped in interstate commerce for use in an investigational clinical trial and a request for FDA authorization to administer such investigational drug to humans. Such authorization must be secured prior to interstate shipment and administration of the investigational drug. In an IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments. In addition, an applicant submits the results of the preclinical tests, manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, to the FDA as part of an IND. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time, the FDA raises concerns or questions related to one or more proposed clinical trials and places the trial on clinical hold. The FDA also may impose a clinical hold or partial clinical hold after commencement of a clinical trial under an IND. A clinical hold is an order issued by the FDA to the sponsor to delay a proposed clinical investigation or to suspend an ongoing investigation. A partial clinical hold is a delay or suspension of only part of the clinical work requested under the IND. No more than 30 days after imposition of a clinical hold or partial clinical hold, the FDA will provide the sponsor a written explanation of the basis for the hold. Following issuance of a clinical hold or partial clinical hold, an investigation (or full investigation in the case of a partial clinical hold) may only resume after the FDA has notified the sponsor that

the investigation may proceed. The FDA will base that determination on information provided by the sponsor correcting the deficiencies previously cited or otherwise satisfying the FDA that the investigation can proceed.

A sponsor may choose, but is not required, to conduct a foreign clinical trial under an IND. When a foreign clinical trial is conducted under an IND, all FDA IND requirements must be met unless waived. When the foreign clinical trial is not conducted under an IND, the sponsor must ensure that the study is conducted in accordance with GCP, including review and approval by an independent ethics committee (IEC) and informed consent from subjects. The GCP requirements are intended to help ensure the protection of human subjects enrolled in non-IND foreign clinical trials, as well as the quality and integrity of the resulting data. FDA must also be able to validate the data from the study through an on-site inspection if necessary.

In addition to the foregoing IND requirements, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review of the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the product candidate has been associated with unexpected serious harm to patients.

Additionally, some trials are overseen by an independent group of qualified experts organized by the trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether or not a trial may move forward at designated check points based on access that only the group maintains to available data from the study. The FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk.

Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health (NIH) for public dissemination on its *ClinicalTrials.gov* website.

Human Clinical Trials in Support of an NDA

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research subjects, or their legal representative, provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written study protocols detailing, among other things, the inclusion and exclusion criteria, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined:

- Phase 1. The drug is initially introduced into healthy human subjects or, in certain indications such as cancer, patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine maximal dosage.
- Phase 2. The drug is administered to a limited patient population to identify possible AEs and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.
- Phase 3. The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product and to provide adequate information for the labeling of the product. Post-approval studies, often referred to as Phase 4 studies, may be conducted after initial regulatory approval. These studies are used to gain additional experience from the treatment of patients in the intended therapeutic indication.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA. In addition, within 15 calendar days after the sponsor determines that the information qualifies for reporting, IND safety reports must be submitted to the FDA for any of the following: serious and unexpected suspected adverse reactions; findings from other studies or animal or *in vitro* testing that suggest a significant risk in humans exposed to the drug; and any clinically important increase in the case of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. The sponsor also must notify the FDA of any unexpected fatal or life-threatening suspected adverse reaction within seven calendar days after the sponsor's initial receipt of the information. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. The FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the clinical data submitted.

Concurrent with clinical trials, companies often complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug as well as 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 drug candidate and, among other things, the applicant must develop methods for testing the identity, strength, quality, purity, and potency of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

Review of an NDA by the FDA

Assuming successful completion of required clinical testing and other requirements, the results of the preclinical studies and clinical trials, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the drug product for one or more indications. Under federal law, the submission of most NDAs is additionally subject to a significant application user fee as well as annual prescription drug product program fees. These fees are typically increased annually. Certain exceptions and waivers are available for some of these fees.

The FDA conducts a preliminary review of an NDA within 60 days of its receipt, before accepting the NDA for filing, to determine whether the application is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to specified performance goals in the review process of NDAs. Applications for drugs containing new molecular entities are meant to be reviewed within 10 months from the date of filing, and applications for "priority review" products containing new molecular entities are meant to be reviewed within six months of filing. The review process may be extended by the FDA for three additional months to consider new information or clarification provided by the applicant to address an outstanding deficiency identified by the FDA following the original submission.

During its review of an NDA, the FDA typically will inspect the facility or facilities where the product is or will be manufactured. These pre-approval inspections may cover all facilities associated with an NDA, including drug component manufacturing (such as APIs), finished drug product manufacturing, and control testing laboratories. The FDA will not approve an NDA unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications.

In addition, as a condition of approval, the FDA may require an applicant to develop a REMS. REMS use risk minimization strategies beyond the professional labeling to ensure that the benefits of the product outweigh the potential risks. To determine whether a REMS is needed, the FDA will consider the size of the population

likely to use the product, seriousness of the disease, expected benefit of the product, expected duration of treatment, seriousness of known or potential AEs, and whether the product is a new molecular entity. REMS can include medication guides, physician communication plans for healthcare professionals, and elements to assure safe use (ETASU). ETASU may include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patient registries. The FDA may require a REMS before approval or post-approval if it becomes aware of a serious risk associated with use of the product.

The FDA is required to refer an application for a novel drug to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Fast Track, Breakthrough Therapy, and Priority Review

The FDA has a number of programs intended to facilitate and expedite development and review of new drugs if they are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. Three of these programs are referred to as Fast Track Designation, Breakthrough Therapy Designation, and priority review designation.

Specifically, the FDA may designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track products, sponsors may have greater interactions with the FDA and the FDA may initiate review of sections of a Fast Track product's application before the application is complete. This rolling review may be available if the FDA determines, after preliminary evaluation of clinical data submitted by the sponsor, that a Fast Track product may be effective. The sponsor must also provide, and the FDA must approve, a schedule for the submission of the remaining information and the sponsor must pay applicable user fees. However, the FDA's time period goal for reviewing a Fast Track application does not begin until the last section of the application is submitted. In addition, the Fast Track Designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

Second, a product may be designated as a Breakthrough Therapy if it is intended, either alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product 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 FDA may take certain actions with respect to Breakthrough Therapies, including holding meetings with the sponsor throughout the development process; providing timely advice to the product sponsor regarding development and approval; involving more senior staff in the review process; assigning a cross-disciplinary project lead for the review team; and taking other steps to design the clinical trials in an efficient manner.

Third, the FDA may designate an NDA review for a priority review if it is for a product that treats a serious or life-threatening disease or condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA determines, on a case-by-case basis, whether the proposed product represents a significant improvement when compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting product reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes, and evidence of safety and effectiveness in a new subpopulation. A priority designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for taking action on a marketing application from 10 months to six months.

Accelerated Approval Pathway

The FDA may grant accelerated approval to a product for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that the product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality (IMM), and that is reasonably likely to predict an effect on IMM or other clinical benefit, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. Products granted accelerated approval must meet the same statutory standards for safety and effectiveness as those granted traditional approval.

For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign, or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. An intermediate clinical endpoint is a measurement of a therapeutic effect that is considered reasonably likely to predict the clinical benefit of a product, such as an effect on IMM. The FDA has limited experience with accelerated approvals based on intermediate clinical endpoints, but has indicated that such endpoints generally may support accelerated approval where the therapeutic effect measured by the endpoint is not itself a clinical benefit and basis for traditional approval, if there is a basis for concluding that the therapeutic effect is reasonably likely to predict the ultimate clinical benefit of a product.

The accelerated approval pathway is most often used in settings in which the course of a disease is long and an extended period of time is required to measure the intended clinical benefit of a product, even if the effect on the surrogate or intermediate clinical endpoint occurs rapidly.

The accelerated approval pathway is contingent on a sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the product's clinical benefit. As a result, a product candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the clinical endpoint. Under the Food and Drug Omnibus Reform Act of 2022 (FDORA), the FDA is permitted to require, as appropriate, that such trials be underway prior to approval or within a specific time period after the date of approval for a product granted accelerated approval. Sponsors are also required to send updates to the FDA every 180 days on the status of such studies, including progress toward enrollment targets, and the FDA must promptly post this information publicly. Under FDORA, the FDA has increased authority for expedited procedures to withdraw approval of a drug or indication approved under accelerated approval if, for example, the sponsor fails to conduct such studies in a timely manner and send the necessary updates to the FDA, or if a confirmatory trial fails to verify the predicted clinical benefit of the product. In addition, the FDA generally requires, unless otherwise informed by the agency, pre-approval of promotional materials for product candidates approved under accelerated regulations, which could adversely impact the timing of the commercial launch of the product.

The FDA's Decision on an NDA

On the basis of the FDA's evaluation of the NDA and accompanying information, including the results of the inspection of the manufacturing facilities and select clinical trial sites, the FDA may issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If a complete response letter is issued, the applicant may resubmit the NDA to address all of the deficiencies identified in the letter, withdraw the application, or request a hearing. If the applicant resubmits the NDA, the FDA will issue an approval letter only when the deficiencies have been addressed to the FDA's satisfaction. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

If the FDA approves a product, it may limit the approved indications for use for the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess the drug's safety or effectiveness after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs.

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion, reporting of adverse experiences with the product and applicable product tracking and tracing requirements. After approval, many 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 annual prescription drug product program fee requirements for certain marketed products.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the NDA holder and any third-party manufacturers that the NDA holder may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the 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 AEs of unanticipated severity or frequency, or with 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 trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. 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 voluntary product recalls;
- fines, warning or untitled letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. However, companies may share truthful and not misleading information that is otherwise consistent with a product's FDA approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act (PDMA), which regulates the distribution of drugs and drug samples at the federal level, and sets

minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Hatch-Waxman Amendments

Section 505 of the FDCA describes three types of marketing applications that may be submitted to the FDA to request marketing authorization for a new drug. A Section 505(b)(1) NDA is an application that contains full reports of investigations of safety and efficacy. A 505(b)(2) NDA is an application that contains full reports of investigations of safety and efficacy but where at least some of the information required for approval comes from investigations that were not conducted by or for the applicant and for which the applicant has not obtained a right of reference or use from the person by or for whom the investigations were conducted. This regulatory pathway enables the applicant to rely, in part, on the FDA's prior findings of safety and efficacy for an existing product, or published literature, in support of its application. Section 505(j) establishes an abbreviated approval process for a generic version of approved drug products through the submission of an Abbreviated New Drug Application (ANDA). An ANDA provides for marketing of a generic drug product that has the same active ingredients, dosage form, strength, route of administration, labeling, performance characteristics and intended use, among other things, to a previously approved product, known as a reference listed drug (RLD). ANDAs are termed "abbreviated" because they are generally not required to include preclinical (animal) and clinical (human) data to establish safety and efficacy. Instead, generic applicants must scientifically demonstrate that their product is bioequivalent to, or performs in the same manner as, the innovator drug through *in vitro*, *in vivo*, or other testing. The generic version must deliver the same amount of active ingredients into a subject's bloodstream in the same amount of time as the innovator drug and can often be substituted by pharmacists under prescriptions written for the reference listed drug.

Non-Patent Exclusivity

Under the Hatch-Waxman Amendments, the FDA may not approve (or in some cases accept) an ANDA or 505(b)(2) application until any applicable period of non-patent exclusivity for the RLD has expired. The FDCA provides a period of five years of non-patent data exclusivity for a new drug containing a new chemical entity (NCE). For the purposes of this provision, an NCE is a drug that contains no active moiety that has previously been approved by the FDA in any other NDA. An active moiety is the molecule or ion responsible for the physiological or pharmacological action of the drug substance. In cases where such NCE exclusivity has been granted, an ANDA may not be filed with the FDA until the expiration of five years unless the submission is accompanied by a Paragraph IV certification, which states the proposed generic drug will not infringe one or more of the already approved product's listed patents or that such patents are invalid or unenforceable, in which case the applicant may submit its application four years following the original product approval.

The FDCA also provides for a period of three years of exclusivity for non-NCE drugs if the NDA or a supplement to the NDA includes reports of one or more new clinical investigations, other than bioavailability or bioequivalence studies, that were conducted by or for the applicant and are essential to the approval of the application or supplement. This three-year exclusivity period often protects changes to a previously approved drug product, such as a new dosage form, route of administration, combination or indication, but it generally would not protect the original, unmodified product from generic competition. Unlike five-year NCE exclusivity, an award of three-year exclusivity does not block the FDA from accepting ANDAs seeking approval for generic versions of the drug as of the date of approval of the original drug product; it only prevents FDA from approving such ANDAs.

A drug product can obtain pediatric market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods for all formulations, dosage forms, and indications of the active moiety and to patent terms. This six-month exclusivity, which runs from the end of other exclusivity protection and 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, provided that at the time pediatric exclusivity is granted there is not less than nine months of term remaining.

Hatch-Waxman Patent Certification and the 30-Month Stay

In seeking approval of an NDA or a supplement thereto, NDA sponsors are required to list with the FDA each patent with claims that cover the applicant's product or an approved method of using the product. Upon approval, each of the patents listed by the NDA sponsor is published in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations, commonly known as the Orange Book. Upon submission of an ANDA or 505(b)(2) NDA, an applicant is required to certify to the FDA concerning any patents listed for the RLD in the Orange Book that:

- no patent information on the drug product that is the subject of the application has been submitted to the FDA;
- such patent has expired;
- the date on which such patent expires; or
- such patent is invalid, unenforceable or will not be infringed upon by the manufacture, use, or sale of the drug product for which the application is submitted.

Generally, the ANDA or 505(b)(2) NDA cannot be approved until all listed patents have expired, except where the ANDA or 505(b)(2) NDA applicant challenges a listed patent through the last type of certification, also known as a paragraph IV certification. If the applicant does not challenge the listed patents or indicates that it is not seeking approval of a patented method of use, the ANDA or 505(b)(2) NDA application will not be approved until all of the listed patents claiming the referenced product have expired. If the ANDA or 505(b)(2) NDA applicant has provided a paragraph IV certification the applicant must send notice of the paragraph IV certification to the NDA and patent holders once the application has been accepted for filing by the FDA. The NDA and patent holders may then initiate a patent infringement lawsuit in response to the notice of the paragraph IV certification. If the paragraph IV certification is challenged by an NDA holder or the patent owner(s) asserts a patent challenge to the paragraph IV certification, the FDA may not approve that application until the earlier of 30 months from the receipt of the notice of the paragraph IV certification, the expiration of the patent, when the infringement case concerning each such patent was favorably decided in the applicant's favor or settled, or such shorter or longer period as may be ordered by a court. This prohibition is generally referred to as the 30-month stay. In instances where an ANDA or 505(b)(2) NDA applicant files a paragraph IV certification, the NDA holder or patent owner(s) regularly take action to trigger the 30-month stay, recognizing that the related patent litigation may take many months or years to resolve. Thus, approval of an ANDA or 505(b)(2) NDA could be delayed for a significant period of time depending on the patent certification the applicant makes and the reference drug sponsor's decision to initiate patent litigation. If the drug has NCE exclusivity and the ANDA is submitted four years after approval, the 30-month stay is extended so that it expires seven and a half years after approval of the innovator drug, unless the patent expires or there is a decision in the infringement case that is favorable to the ANDA applicant before then.

Patent Term Restoration and Extension

A patent claiming a new drug product may be eligible for a limited patent term extension under the Hatch-Waxman Amendments, which permits a patent term restoration of up to five years for patent term lost during product development and the FDA regulatory review. The restoration period granted is typically one-half the time between the effective date of an IND and the submission date of an NDA, plus the time between the submission date of an NDA and the ultimate approval date, provided the sponsor acted with diligence. Patent term restoration cannot be used to extend the remaining term of a patent past a total of 14 years from the product's approval date. Only one patent applicable to an approved drug product is eligible for the extension, and the application for the extension must be submitted prior to the expiration of the patent in question and within 60

days of drug approval. A patent that covers multiple drugs for which approval is sought can only be extended in connection with one of the approvals. The U.S. Patent and Trademark Office (USPTO) reviews and approves the application for any patent term extension or restoration in consultation with the FDA.

Review and Approval of Medicinal Products in the European Union

In order to market any product outside of the United States, a company must also comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of products. Whether or not it obtains FDA approval for a product, an applicant will need to obtain the necessary approvals by the comparable foreign regulatory authorities before it can commence clinical trials or marketing of the product in those countries or jurisdictions. Specifically, the process governing approval of medicinal products in the EU generally follows similar lines as in the United States. It entails satisfactory completion of preclinical studies and adequate and well-controlled clinical trials to establish the safety and efficacy of the product for each proposed indication. It also requires a submission to the relevant competent authorities of a marketing authorization application (MAA) and granting of a marketing authorization by these authorities before the product can be marketed and sold in the EU.

Clinical Trial Approval

In the EU, an applicant for authorization of a clinical trial must obtain prior approval from the national competent authority of the EU Member States in which the clinical trial is to be conducted. Furthermore, the applicant may only start a clinical trial at a specific study site after the relevant independent ethics committee has issued a favorable opinion. In April 2014, the Clinical Trials Regulation, (EU) No 536/2014 (Clinical Trials Regulation) was adopted in the EU. The Clinical Trials Regulation is directly applicable in all the EU Member States and repealed the Clinical Trials Directive 2001/20/EC, as of January 31, 2022.

The Clinical Trials Regulation aims to simplify and streamline the approval of clinical trials in the EU. The main characteristics of the regulation include: a streamlined application procedure via a single entry point, known as the “Clinical Trials Information System”; a single set of documents to be prepared and submitted for the application, as well as simplified reporting procedures for clinical trial sponsors; and a harmonized procedure for the assessment of applications for clinical trials, which is divided in two parts. Part I is assessed by an elected Reference Member State, with support of the competent authorities of all EU Member States in which an application for authorization of a clinical trial has been submitted (the Member States concerned). Part II is assessed separately by each Member State concerned. Strict deadlines have been established for the assessment of clinical trial applications. The role of the relevant ethics committees in the assessment procedure continues to be governed by the national laws of the concerned EU Member State, however overall related timelines are defined by the Clinical Trials Regulation.

Marketing Authorization

To obtain a marketing authorization for a product in the EU, an applicant must submit an MAA either under a centralized procedure administered by the European Medicines Agency (EMA) or one of the procedures administered by competent authorities in the EU Member States (decentralized procedure or mutual recognition procedure) for obtaining a marketing authorization in multiple EU Member States. A marketing authorization may be granted only to an applicant established in the European Economic Area (EEA) (which is comprised of the EU Member States plus Norway, Iceland and Liechtenstein).

The centralized procedure provides for the grant of a single marketing authorization by the European Commission that is valid throughout the EEA. Pursuant to Regulation (EC) No 726/2004, the centralized procedure is compulsory for specific products, including for medicines produced by certain biotechnological processes, products designated as orphan medicinal products, advanced therapy medicinal products (gene

therapy, somatic cell therapy and tissue-engineered products) and products with a new active substance indicated for the treatment of certain diseases, including products for the treatment of HIV, AIDS, cancer, diabetes, neurodegenerative diseases, auto-immune and other immune dysfunctions and viral diseases. The centralized procedure is optional for other products containing a new active substance not yet authorized in the EU, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU.

Under the centralized procedure, the Committee for Medicinal Products for Human Use (CHMP) established at the EMA is responsible for conducting the initial assessment of a product. The CHMP is also responsible for several post-authorization and maintenance activities, such as the assessment of modifications or extensions to an existing marketing authorization. Under the centralized procedure, the maximum timeframe for the evaluation of an MAA is 210 days, excluding clock stops, when additional information or written or oral explanation is to be provided by the applicant in response to questions asked by the CHMP. Clock stops may extend the timeframe of evaluation of an MAA considerably beyond 210 days. Accelerated evaluation might be granted by the CHMP in exceptional cases, when a medicinal product is of major interest from a public health perspective and in particular from the point of view of therapeutic innovation. If the CHMP accepts such request, the time limit of 210 days will be reduced to 150 days, excluding clock stops, but it is possible that the CHMP can revert to the standard time limit for the centralized procedure if it considers that it is no longer appropriate to conduct an accelerated assessment. At the end of this period, the CHMP provides a scientific opinion on whether or not a marketing authorization should be granted in relation to a medicinal product. Within 67 days from the date of the CHMP opinion, the European Commission will adopt its final decision on the MAA.

Now that the United Kingdom (which comprises Great Britain and Northern Ireland) (UK) has left the EU, Great Britain is no longer covered by centralized marketing authorizations (under the Northern Ireland Protocol, centralized marketing authorizations currently continue to be recognized in Northern Ireland). On January 1, 2024, a new international recognition framework was put in place by the Medicines and Healthcare products Regulatory Agency (MHRA), the UK medicines and medical devices regulator, under which the MHRA may have regard to decisions on the approval of marketing authorizations made by the EMA and certain other regulators when determining an application for the grant of a UK or Great Britain marketing authorization. The MHRA also has the power to have regard to marketing authorizations approved in EU Member States through decentralized or mutual recognition procedures with a view to more quickly granting a marketing authorization in the UK or Great Britain. For additional information related to the regulatory framework in the UK, please refer to the discussion below under the section titled “ —Brexit and the Regulatory Framework in the United Kingdom.”

The decentralized marketing authorization procedure allows an applicant to apply for simultaneous authorization in more than one EU Member State of medicinal products that have not yet been authorized in any EU Member State and that do not fall within the mandatory scope of the centralized procedure. This application is identical to the application that would be submitted to the EMA for authorization through the centralized procedure. The Reference Member State prepares a draft assessment and drafts of the related materials within 120 days after receipt of a valid application. The resulting assessment report is submitted to the Concerned Member States who, within 90 days of receipt, must decide whether to approve the assessment report and related materials. If a Concerned Member State cannot approve the assessment report and related materials due to concerns relating to a potential serious risk to public health, disputed elements may be referred to the European Commission, whose decision is binding on all Member States.

The mutual recognition procedure is based on the acceptance by the competent authorities of the EU Member States of the marketing authorization of a medicinal product by the competent authorities of another EU Member State. The holder of a national marketing authorization may submit an application to the competent authority of an EU Member State requesting that this authority recognize the marketing authorization delivered by the competent authority of another EU Member State.

Pediatric Development

Regulation (EC) No 1901/2006 provides that prior to obtaining a marketing authorization in the EU, applicants have to demonstrate compliance with all measures included in an EMA-approved Pediatric Investigation Plan (PIP) covering all subsets of the pediatric population, unless the EMA has granted (1) a product-specific waiver, (2) a class waiver or (3) a deferral for one or more of the measures included in the PIP. The PIP sets out the timing and measures proposed to generate data to support a pediatric indication of the product for which a marketing authorization is being sought. Products that are granted a marketing authorization with the results of the pediatric clinical trials conducted in accordance with the PIP are eligible for a six-month extension of the protection under a supplementary protection certificate (SPC), provided an application for such extension is made at the same time as filing the SPC application for the product, or at any point up to two years before the SPC expires, even where the trial results are negative. In the case of orphan medicinal products, a two-year extension of the orphan market exclusivity may be available. This pediatric reward is subject to specific conditions and is not automatically available when data in compliance with the PIP are developed and submitted.

Data and Market Exclusivity

In the EU, innovative medicinal products approved on the basis of a complete and independent data package qualify for eight years of data exclusivity upon marketing authorization and an additional two years of market exclusivity. Data exclusivity prevents applicants for authorization of generics or biosimilars of these innovative products from referencing the innovator's preclinical and clinical trial data contained in the dossier of the reference product when applying for a generic or biosimilar (abbreviated) marketing authorization, for a period of eight years from the date on which the reference product was first authorized in the EU. During an additional two-year period of market exclusivity, a generic or biosimilar MAA can be submitted, and the innovator's data may be referenced, but no generic or biosimilar medicinal product can be placed on the EU market until the expiration of the market exclusivity. The overall 10-year period will be extended to a maximum of 11 years if, during the first eight years of those 10 years, the marketing authorization 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. There is no guarantee that a product will be considered by the EMA to be an innovative medicinal product, and products may not qualify for data exclusivity. Even if a product is considered to be an innovative medicinal product so that the innovator gains the prescribed period of data exclusivity, another company nevertheless could also market another version of the product if such company obtained a marketing authorization based on an MAA with a complete and independent data package of pharmaceutical tests, preclinical tests and clinical trials.

Orphan Designation and Exclusivity

Regulation (EC) No 141/2000 and Regulation (EC) No. 847/2000 provide that a product can be designated as an orphan medicinal product by the European Commission if its sponsor can establish that: (1) the product is intended for the diagnosis, prevention or treatment of a life-threatening or chronically debilitating condition, (2) either (i) such condition affects no more than five in ten thousand persons in the EU when the application is made, or (ii) without the benefits derived from orphan status, it is unlikely that the marketing of the product in the EU would generate sufficient return to justify the necessary investment in its development and (3) there exists no satisfactory method of diagnosis, prevention or treatment of the condition in question that has been authorized in the EU or, if such method exists, the product would be of significant benefit to those affected by that condition.

An orphan designation provides a number of benefits, including fee reductions, regulatory assistance and the possibility to apply for a centralized EU marketing authorization. Marketing authorization for an orphan medicinal product leads to a ten-year period of market exclusivity being granted. During this market exclusivity period, the EMA, the European Commission or the competent authorities of the EU Member States may only grant a marketing authorization to a "similar medicinal product" to the authorized orphan product for the same therapeutic indication

if: (i) a second applicant can establish that its product, although similar to the authorized orphan product, is safer, more effective or otherwise clinically superior; (ii) the marketing authorization holder for the authorized orphan product consents to a second orphan medicinal product application; or (iii) the marketing authorization holder for the authorized orphan product cannot supply enough orphan medicinal product. A "similar medicinal product" is defined as a medicinal product containing a similar active substance or substances as contained in an authorized orphan medicinal product, and which is intended for the same therapeutic indication. The market exclusivity period for the authorized therapeutic indication may, however, be reduced to six years if, at the end of the fifth year, it is established that the product no longer meets the criteria for orphan designation because, for example, the product is sufficiently profitable not to justify market exclusivity. Orphan designation must be requested before submitting an application for marketing authorization. Orphan designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process.

Periods of Authorization and Renewals

A marketing authorization has an initial validity of five years. The marketing authorization may be renewed after five years on the basis of a re-evaluation of the risk-benefit balance by the EMA or by the competent authority of the relevant EU Member State for a nationally authorized product. To this end, the marketing authorization holder must provide the EMA or the competent authority with a consolidated version of the file in respect of quality, safety and efficacy, including all variations introduced since the marketing authorization was granted, at least nine months before the marketing authorization ceases to be valid. Once renewed, the marketing authorization is valid for an unlimited period, unless the European Commission or the competent authorities of the relevant Member States decide, on justified grounds relating to pharmacovigilance, to proceed with one further five year renewal period. Any authorization which is not followed by the actual placing of the medicinal product on the EU market (for centrally-authorized products) or on the market of the authorizing EU Member State (for nationally-authorized products) within three years after authorization ceases to be valid (the so-called sunset clause).

Regulatory Requirements after a Marketing Authorization has been Obtained

Where an authorization for a medicinal product in the EU is obtained, the holder of the marketing authorization is required to comply with a range of requirements applicable to the manufacturing, marketing, promotion and sale of medicinal products. These include:

- Compliance with the EU's stringent pharmacovigilance or safety reporting rules must be ensured. These rules can impose post-authorization studies and additional monitoring obligations.
- The manufacturing of authorized medicinal products, for which a separate manufacturer's license is mandatory, must also be conducted in strict compliance with the applicable EU laws, regulations and guidance, including Directive 2001/83/EC, Directive (EU) 2017/1572, Regulation (EC) No 726/2004 and the European Commission Guidelines for Good Manufacturing Practice. These requirements include compliance with EU cGMP standards when manufacturing medicinal products and APIs, including the manufacture of APIs outside of the EU with the intention to import the APIs into the EU.
- The marketing and promotion of authorized products, including industry-sponsored continuing medical education and advertising directed toward the prescribers of products and/or the general public, are strictly regulated in the EU notably under Directive 2001/83/EC, as amended, and EU Member State laws.

The aforementioned EU rules are generally applicable in the EEA.

Reform of the Regulatory Framework in the European Union

The European Commission introduced legislative proposals in April 2023 that, if implemented, will replace the current regulatory framework in the EU for all medicines (including those for rare diseases and for children).

The European Commission has provided the legislative proposals to the European Parliament and the European Council for their review and approval. In April 2024, the European Parliament adopted its position on the legislative proposals. Once the European Commission's legislative proposals are approved (with or without amendment), they will be adopted into EU law.

Brexit and the Regulatory Framework in the United Kingdom

The UK ceased being a Member State of the EU on January 31, 2020, and the EU and the UK have concluded a trade and cooperation agreement (TCA), which was 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 of GMP, inspections of manufacturing facilities for medicinal products and GMP documents issued, but does not provide for wholesale mutual recognition of UK and EU pharmaceutical regulations. At present, Great Britain has implemented previous EU legislation on the marketing, promotion and sale of medicinal products through the Human Medicines Regulations 2012 (as amended) (under the Northern Ireland Protocol, the EU regulatory framework continues to apply in Northern Ireland). Except in respect of the EU Clinical Trials Regulation, the regulatory regime in Great Britain therefore aligns in many ways with current EU medicines regulations, however it is possible that these regimes will diverge more significantly in the future now that Great Britain's regulatory system is independent from the EU and the TCA does not provide for mutual recognition of UK and EU pharmaceutical legislation. However, notwithstanding that there is no wholesale recognition of EU pharmaceutical legislation under the TCA, under a new international recognition framework which was put in place by the MHRA on January 1, 2024, the MHRA may take into account decisions on the approval of marketing authorizations from the EMA (and certain other regulators) when considering an application for a Great Britain or UK marketing authorization.

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 marketing authorization 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. On June 9, 2023, the MHRA announced that the medicines aspects of the Windsor Framework will apply from January 1, 2025.

Other Healthcare Laws

Our business operations and current and future arrangements with investigators, healthcare professionals, consultants, third-party payors, patient organizations and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations. The laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. 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;

- federal civil and criminal false claims laws, including the False Claims Act (FCA), which can be enforced through civil "qui tam" or "whistleblower" actions, and civil monetary penalty laws, which impose criminal and civil penalties against individuals or entities for, among other things, knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid or other federal health care programs that are false or fraudulent; knowingly making or causing a false statement material to a false or fraudulent claim or an obligation to pay money to the federal government; or knowingly concealing or knowingly and improperly avoiding or decreasing such an obligation. Manufacturers can be held liable under the FCA even when they do not submit claims directly to government payors if they are deemed to "cause" the submission of false or fraudulent claims. 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 FCA. The FCA also permits a private individual acting as a "whistleblower" to bring actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery;
- the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), which created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity can be found guilty of violating these statutes without actual knowledge of the statutes or specific intent to violate them in order to have committed a violation;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH), imposes requirements on certain covered healthcare providers, health plans and healthcare clearinghouses as well as their respective business associates and their subcontractors that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization. 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;
- Even when HIPAA/HITECH do not apply, according to the Federal Trade Commission (FTC), failing to take appropriate steps to keep consumers' personal information secure constitutes unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act, 15 U.S.C. § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards;
- the federal Physician Payments Sunshine Act, created under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the ACA) and its implementing regulations, which requires manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the Department of Health and Human Services (HHS) information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), certain other licensed healthcare professionals (i.e., physician assistants, nurse practitioners, clinical nurse specialists, anesthesiologist assistants, certified registered nurse anesthetists, and certified nurse midwives), and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;

- federal government price reporting laws, which require us to calculate and report complex pricing metrics in an accurate and timely manner to government programs;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers; and
- analogous state and foreign laws and regulations, such as state and foreign anti-kickback, false claims, consumer protection and unfair competition laws which may apply to pharmaceutical business practices, including but not limited to, research, distribution, sales, and marketing arrangements as well as submitting claims involving healthcare items or services reimbursed by any third-party payor, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government that otherwise restricts payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to file reports with states regarding pricing and marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to healthcare professionals and entities; and state and local laws requiring the registration of pharmaceutical sales representatives.

If our operations are found to be in violation of any of such laws or any other governmental regulations that apply, we may be subject to significant penalties, including, without limitation, administrative, civil and criminal penalties, damages, fines, disgorgement, the curtailment or restructuring of operations, integrity oversight and reporting obligations, exclusion from participation in federal and state healthcare programs and responsible individuals may be subject to imprisonment.

Coverage and Reimbursement

In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Thus, even if a product candidate is approved, sales of the product will depend, in part, on the extent to which third-party payors, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, the product. Factors payors consider in determining coverage and reimbursement are based on whether the product 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.

In the United States, no uniform policy of coverage and reimbursement for drug products exists among third-party payors. Therefore, coverage and reimbursement for drug products can differ significantly from payor to payor. The process for determining whether a third-party payor will provide coverage for a product may be separate from the process for setting the price or reimbursement rate that the payor will pay for the product once coverage is approved. Third-party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost- effectiveness of medical products and services and imposing controls to manage costs. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and

cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable regulatory approvals. Additionally, companies may also need to provide discounts to purchasers, private health plans or government healthcare programs. Nonetheless, product candidates may not be considered medically necessary or cost effective. A decision by a third-party payor not to cover a product could reduce physician utilization once the product is approved and have a material adverse effect on sales, results of operations and financial condition. Additionally, a third-party payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor.

The containment of healthcare costs has become a priority of federal, state and foreign governments, and the prices of products have been a focus in this effort. There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical products, limiting coverage and the amount of reimbursement for drugs and other medical products, government control and other changes to the healthcare system in the United States. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. 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. We cannot be sure that reimbursement will be available for any product candidate that we commercialize and, if reimbursement is available, the level of reimbursement. 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.

In addition, many pharmaceutical manufacturers must calculate and report certain price reporting metrics to the government, such as average sales price (ASP) 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. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue generated from the sale of any approved products. Even if we do receive a favorable coverage determination for approved products by third-party payors, coverage policies and third-party payor reimbursement rates may change at any time.

Moreover, payment methodologies may be subject to changes in healthcare legislation and regulatory initiatives. For example, the U.S. Centers for Medicare & Medicaid Services (CMS) may develop new payment and delivery models, such as bundled payment models. In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their commercial products, which has resulted in several U.S. Congressional inquiries and proposed and enacted state and federal legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for pharmaceutical products. Congress has indicated that it will continue to seek new legislative measures to control drug costs.

Outside the United States, ensuring coverage and adequate payment for a product also involves challenges. Pricing of prescription pharmaceuticals is subject to government control in many countries. Pricing negotiations with government authorities can extend well beyond the receipt of regulatory approval for a product and may require a clinical trial that compares the cost-effectiveness of a product to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in commercialization.

In the EU, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may

require the completion of additional studies that compare the cost-effectiveness of a particular product candidate to currently available therapies or so-called health technology assessments, in order to obtain reimbursement or pricing approval. For example, the EU Member States have the option to restrict the range of products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. EU Member States may approve a specific price for a product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other EU Member States allow companies to fix their own prices for products but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions. Recently, many countries in the EU have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage healthcare expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the EU. The downward pressure on healthcare costs in general, particularly prescription products, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various EU Member States, and parallel trade, i.e., arbitrage between low-priced and high-priced EU Member States, can further reduce prices. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any products, if approved in those countries.

Current and Future U.S. Healthcare Reform

In the United States, there have been a number of legislative and regulatory changes to the healthcare system that could impact our ability to sell our products profitably. For example, in March 2010, the ACA was enacted, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly affected the pharmaceutical industry. The ACA contained a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement adjustments and changes to fraud and abuse laws. For example, the ACA, among other things:

- increased the minimum level of Medicaid rebates payable by manufacturers of brand name drugs from 15.1% to 23.1% of the average manufacturer price;
- required collection of rebates for drugs paid by Medicaid managed care organizations;
- required manufacturers to participate in a coverage gap discount program, under which they must agree to offer 50 percent point-of-sale discount 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 (later increased to 70%); and
- imposed a non-deductible annual fee on pharmaceutical manufacturers or importers who sell "branded prescription drugs" to specified federal government programs.

Since its enactment, there have been judicial, administrative, executive, and legislative challenges to certain aspects of the ACA as well as executive orders related to the ACA's implementation. For example, President Biden has issued multiple executive orders that have sought to reduce prescription drug costs. In addition, 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 other healthcare reform measures of the Biden administrations or other efforts, if any, to challenge repeal or replace the ACA, will impact our business.

There has been increasing legislative and enforcement interest in the United States with respect to 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. For example, the Inflation Reduction

Act of 2022 (IRA), among other things, (i) directs HHS to negotiate the price of certain high-expenditure, single-source drugs and biologics covered under Medicare, and subject drug manufacturers to civil monetary penalties and a potential excise tax by offering a price that is not equal to or less than the negotiated "maximum fair price" for such drugs and biologics under the law and (ii) imposes rebates with respect to certain drugs and biologics covered under Medicare Part B or Medicare Part D to penalize price increases that outpace inflation. The IRA permits HHS to implement many of these provisions through guidance, as opposed to regulation, for the initial years. These provisions took effect progressively starting in fiscal year 2023. On August 29, 2023, HHS announced the list of the first ten drugs that will be subject to price negotiations, although the Medicare drug price negotiation program is currently subject to legal challenges. It is unclear how the IRA will be implemented but is likely to have a significant impact on the pharmaceutical industry. Further, on December 7, 2023, the Biden administration announced an initiative to control the price of prescription drugs through the use of march-in rights under the Bayh-Dole Act. On December 8, 2023, the National Institute of Standards and Technology published for comment a Draft Interagency Guidance Framework for Considering the Exercise of March-In Rights which for the first time includes the price of a product as one factor an agency can use when deciding to exercise march-in rights. While march-in rights have not previously been exercised, it is uncertain if that will continue under the new framework.

In 2020, FDA released its implementing regulations regarding section 804 Importation Programs under the Medicare Prescription Drug Improvement and Modernization Act of 2003. These regulations provide guidance for states to build and submit importation plans for certain drugs from Canada. On September 25, 2020, CMS stated drugs imported by states under this rule will not be eligible for federal rebates under Section 1927 of the Social Security Act and manufacturers would not report these drugs for "best price" or Average Manufacturer Price purposes. Since these drugs are not considered covered outpatient drugs, CMS further stated it will not publish a National Average Drug Acquisition Cost for these drugs. On January 5, 2024, the FDA approved Florida's Section 804 Importation Program (SIP) proposal to import certain drugs from Canada for specific state healthcare programs. It is unclear how this program will be implemented, including which drugs will be chosen, and whether it will be subject to legal challenges in the United States or Canada. Other states have also submitted SIP proposals that are pending review by the FDA. Any such approved importation plans, when implemented, may result in lower drug prices for products covered by those programs

Additionally, on December 2, 2020, HHS published a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Medicare Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers. The IRA delayed implementation of this rule to January 1, 2032.

Other legislative and regulatory changes have been proposed and adopted in the United States since the ACA was enacted:

- The U.S. Budget Control Act of 2011, among other things, included aggregate reductions of Medicare payments to providers of 2% per fiscal year, and, due to subsequent legislative amendments to the statute, will remain in effect until 2032.
- The U.S. American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several types of providers.
- The American Rescue Plan Act of 2021 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, effective January 1, 2024. 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.

- The IRA also includes several other provisions that may impact our business to varying degrees, including provisions that create a $2,000 out-of-pocket cap for Medicare Part D beneficiaries, and impose new manufacturer financial liability on all drugs in Medicare Part D.

Individual states have also been increasingly active in passing legislation and implementing 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 addition, regional health care authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other health care programs. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services.

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.

Data Protection, Privacy, and Security

In the ordinary course of business, we collect, transmit, store, use, disclose, transfer, maintain and otherwise process sensitive information, including personal data. Accordingly, we are, or may be become, subject to numerous data protection, privacy, and security obligations, including global, federal, state, and local laws, rules, regulations, guidance, industry standards, external and internal privacy and security policies, contractual requirements and other obligations related to data protection, privacy, and security.

These data protection, privacy, and security obligations are evolving and may impose potentially conflicting obligations. Such obligations may include, without limitation, federal health information privacy laws, state information security and data breach notification laws, state health information privacy laws, and federal and state consumer protection laws (e.g., the Federal Trade Commission Act). In addition, in the past few years, numerous U.S. states have passed, or are in the process of enacting, comprehensive privacy laws, rules, and regulations that impose certain obligations on covered businesses, and similar laws are being considered in several other states, as well as at the federal level. While these laws exempt some data processed in the context of clinical trials, these developments may further complicate compliance efforts, and are examples of the increasingly stringent and evolving regulatory frameworks related to personal data processing, as more fully discussed in the section titled “Risk Factors” included elsewhere in this prospectus.

Additionally, to the extent we collect personal data from individuals outside of the United States, through clinical trials or otherwise, we are, or may become, subject to foreign data protection, privacy, and security laws, such as the European Union’s General Data Protection Regulation (EU GDPR) and the EU GDPR as incorporated into U.K. domestic law post-Brexit (UK GDPR). Such foreign data protection, privacy, and security laws impose significant and complex compliance obligations on entities that are subject to those laws, as more fully discussed in the section titled “Risk Factors” included elsewhere in this prospectus.

Employees and Human Capital Resources

As of June 30, 2024, we had full-time employees, of which have M.D. or Ph.D. degrees. Within our workforce, employees are engaged in research and development and are engaged in business development, finance, legal, and general management and administration. 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.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and new employees, advisors and consultants. The principal purposes of our equity incentive plans are to attract, retain and reward personnel through the granting of equity-based compensation awards in order to increase stockholder value and the success of our company by motivating such individuals to perform to the best of their abilities and achieve our objectives.

Facilities

Our corporate headquarters are located in South San Francisco, California, where we lease and occupy approximately 44,819 square feet of combined office, research and laboratory space at 250 East Grand Avenue, South San Francisco, California 94080. The current term of our lease expires in July 2032.

We believe that our existing facilities are adequate for our current needs and for the foreseeable future. To meet the future needs of our business, we may lease additional or alternate space. We believe that suitable additional or substitute space at commercially reasonable terms will be available as needed to accommodate any future expansion of our operations.

Legal Proceedings

From time to time, we may become involved in or be subject to legal proceedings, claims and litigation arising from the ordinary course of business. We are not currently a party to any litigation or legal proceedings that, in the opinion of our management, are probable to have a material adverse effect on our business. Regardless of outcome, litigation can have an adverse impact on our business, financial condition, results of operations and prospects because of defense and settlement costs, diversion of management resources and other factors.

MANAGEMENT

The following table sets forth the name, age and position of each of our executive officers and directors as of the date of this prospectus.

Name	Age	Position(s)
Executive Officers and Employee Directors:		
Jeffrey Finer, M.D., Ph.D.	58	Chief Executive Officer, President and Director
Liz Bhatt, M.S., M.B.A.	57	Chief Operating Officer
Alan Ezekowitz, M.D., D.Phil.	70	Interim Chief Medical Officer and Director
Samira Shaikhly	54	Chief People Officer
Uwe Klein, Ph.D.	60	Senior Vice President, Biological Sciences
Daniel Long, D.Phil.	51	Senior Vice President, Drug Discovery
Non-Employee Directors:		
Jeffrey Tong, Ph.D.	49	Chairman and Director
Abraham Bassan, M.S.	40	Director
Bernard Coulie, M.D., Ph.D., M.B.A.	58	Director
Shalini Sharp, M.B.A.	49	Director
Jake Simson, Ph.D.	38	Director

(1) Member of the compensation committee.
(2) Member of the nominating and corporate governance committee.
(3) Member of the audit committee.

The following is a biographical summary of the experience of our executive officers and directors.

Executive Officers and Employee Directors

Jeffrey Finer, M.D., Ph.D., has served as our President since December 2019, and as Chief Executive Officer and as a member of our board of directors since November 2021. Since 2016, Dr. Finer has served as a Venture Partner at Third Rock Ventures, a healthcare venture firm, where he was involved in the founding and launching of multiple biotech companies. Prior to joining us, Dr. Finer held positions as interim Chief Technology Officer at Ambys Medicines, Inc., a privately held cell and gene therapy company, from 2017 to May 2019, and at Maze Therapeutics, Inc., a small-molecule precision medicine company, from 2016 to June 2019. Earlier in his career, Dr. Finer held numerous research and development leadership positions, including as Director, Drug Discovery at Cytokinetics, Incorporated, a small-molecule biopharmaceutical company, from 1998 to 2007, as Vice President, Discovery at Five Prime Therapeutics, Inc. (acquired by Amgen, Inc. (Nasdaq: AMGN)), a protein therapeutics company, from January 2007 to August 2011, and as Vice President, Molecular & Cellular Biology and later as Vice President, Research Technology at Theravance Biopharma, Inc. (Nasdaq: TBPH), a publicly traded biopharmaceutical company focused on multiple therapeutic areas, from 2011 to 2016. Dr. Finer obtained his B.S. in Chemistry and B.S. in Biology from the Massachusetts Institute of Technology and his M.D. and Ph.D. in Biochemistry from Stanford University School of Medicine. Dr. Finer completed residency training in Internal Medicine at Stanford University School of Medicine, and residency training in Ophthalmology at Massachusetts Eye & Ear Infirmary and Harvard Medical School.

We believe that Dr. Finer is qualified to serve on our board of directors based on his extensive experience as a senior executive in the pharmaceutical industry, his drug development expertise, his research work for both medical and academic institutions, his public company experience, as well as his knowledge of our company based on his role as our President and Chief Executive Officer.

Liz Bhatt, M.S., M.B.A., has served as our Chief Operating Officer since June 2022. Prior to joining us, Ms. Bhatt held positions as Chief Business & Strategy Officer at Applied Molecular Transport Inc. (merged with

Cyclo Therapeutics, Inc.), a biopharmaceutical company, from September 2019 to May 2022, as Chief Business Officer and later also as Chief Operating Officer of Achaogen, Inc., a publicly held commercial-stage antibiotics company which declared bankruptcy in April 2019, from September 2017 to June 2019, and in various senior management positions at Gilead Sciences, Inc. (Nasdaq: GILD), a publicly traded biopharmaceutical company focused on treatments for viral, cancer and inflammatory disease, including Vice President, Corporate Development, from July 2006 to September 2017. Earlier in her career, Ms. Bhatt held numerous corporate development positions across a range of biotech and pharmaceutical companies, including at Maxygen, Inc. and Eli Lilly and Company. Ms. Bhatt previously served on the board of directors of eFFECTOR Therapeutics, Inc. (f/k/a Locus Walk Acquisition Corporation), a then publicly traded clinical-stage biopharmaceutical company, from October 2020 to June 2024. Ms. Bhatt obtained her B.A. in Chemistry from Pomona College, her M.S. in Biomedical Sciences from the University of California, San Diego and her M.B.A. from the Kellogg School of Management at Northwestern University.

Alan Ezekowitz, M.D., D.Phil., has served as our interim Chief Medical Officer since January 2022 and has been a member of our board of directors since December 2022. Dr. Ezekowitz has served as an Advisory Partner at Third Rock Ventures, a leading biotech venture and company-formation fund, since January 2023, and was previously a Venture Partner at Third Rock Ventures from December 2019 to December 2022. Previously, from November 2011 to June 2019, Dr. Ezekowitz served as the President and Chief Executive Officer of Abide Therapeutics, Inc., a privately held biopharmaceutical company that he co-founded, which he oversaw through its acquisition by H. Lundbeck A/S in 2019. Earlier in his career, from March 2006 to March 2011, Dr. Ezekowitz was the Senior Vice President and Franchise Head at Merck Research Laboratories (Merck), a healthcare company, where he was responsible for the bone, respiratory, immunology, inflammation, dermatology, and endocrine franchises. Prior to joining Merck, Dr. Ezekowitz served at the Harvard Medical School as the Charles Wilder Professor of Pediatrics from June 1995 to March 2005, as the Head of Laboratory for Development Immunology and Principal of the Cancer Center and later as Chief of Pediatric Services at the Massachusetts General Hospital for Children from June 1995 to April 2006, and as a director of the Partners Healthcare System from 2000 to 2006. Dr. Ezekowitz currently serves as a member of the boards of directors of Fulcrum Therapeutics, Inc. (Nasdaq: FULC), a publicly traded small molecule drug discovery company, and Organon & Co., a global healthcare company. Dr. Ezekowitz was honored in 2008 with the establishment of the R. Alan B. Ezekowitz Professorship in Pediatrics at Harvard Medical School. He was the Principal Investigator of an NIH Program Project Grant that included Jules Hoffman, Charles Janeway and Fotis Kafatos who led to the discovery of the TOLL receptors and contributed greatly to the understanding of the field of the innate immunity. Dr. Ezekowitz obtained his M.D. from the University of Cape Town in South Africa and his D.Phil. in Cellular and Molecular Biology from the University of Oxford.

We believe Dr. Ezekowitz is qualified to serve on our board of directors because of his considerable qualifications, attributes and skills, including his distinguished scientific background, experience in leadership roles in the biopharmaceutical industry, venture capital experience as well as his service on the boards of directors of numerous companies.

Samira Shaikhly has served as our Chief People Officer since February 2023. Prior to joining us, Ms. Shaikhly was the Chief People Officer at Ambys Medicines, Inc. (the IP of which was later acquired by Cytotheryx, Inc.) (Ambys Medicines), a privately held cell and gene therapy company, from April 2022 to November 2022, where she led the People & Culture function as the company evolved from a research-focused to a development-focused organization. Prior to Ambys Medicines, Ms. Shaikhly held various roles of increasing responsibility, including Global Head of Human Resources, Corporate Functions Business Partners, at Gilead Sciences, Inc. (Nasdaq: GILD), a publicly traded biopharmaceutical company focused on treatments for viral, cancer and inflammatory disease, from September 2006 to September 2021, where she was responsible for all general and administrative human resources functions. Earlier in her career, Ms. Shaikhly held human resource roles in the technology and retail sectors. Ms. Shaikhly obtained her B.A. in Communication Arts from the University of San Francisco and is a certified Executive Coach from New Ventures West.

Uwe Klein, Ph.D., has served as our Senior Vice President, Biological Sciences since August 2021. Dr. Klein has over 20 years of experience in small molecule drug discovery and deep expertise in GPCR biology. Prior to joining us, Dr. Klein was Vice President, Biology at MyoKardia, Inc. (acquired by Bristol-Myers Squibb (NYSE: BMY) (BMS)), a clinical-stage biopharmaceutical company targeting therapies for cardiovascular disease, from October 2019 to November 2020, and then Vice President, Biology at BMS following the acquisition, from November 2020 to March 2021. Earlier in his career, Dr. Klein held positions as Vice President, Biology at Numerate, Inc. (acquired by Valo Health, Inc.), a privately-held dug discovery company applying novel machine learning algorithms to drug design, from October 2014 to September 2019, and as Senior Director, Molecular & Cellular Biology at Theravance, from September 1998 to October 2014. Dr. Klein obtained his B.S. and M.S. in Chemistry, and his Ph.D. in Biochemistry, from Goethe University Frankfurt, Germany. He also earned a certificate in Bioinformatics at the University of California, Santa Cruz, and completed his post-doctoral fellowships in Molecular & Cellular Biology from University of California, San Francisco and Stanford University.

Daniel Long, D.Phil., has served as our Senior Vice President, Drug Discovery since December 2021. Prior to joining us, Dr. Long spent over 20 years, from January 2001 to December 2021, at Theravance Biopharma, Inc. (Nasdaq: TBPH), a publicly traded biopharmaceutical company focused on chronic obstructive pulmonary disease treatments, where he held numerous scientist positions, including as Vice President, Head of Medical Chemistry, Biology and Pharmacology. Dr. Long obtained his B.A., M.A. and D. Phil. in Chemistry from the University of Oxford and completed an industrial post-doctoral fellowship at DuPont Pharmaceuticals.

Non-Employee Directors

Jeffrey Tong, Ph.D., has served as a member of our board of directors since December 2019, as Chairman of our board of directors since November 2021, and previously served as our interim Chief Executive Officer from December 2019 to November 2022. Dr. Tong is currently a Partner at Third Rock Ventures, where he has worked since May 2016. Earlier in his career, Dr. Tong served as the CEO of Marea Therapeutics, Inc., the Executive Chairman of the board of directors of Delinia, Inc. (acquired by Celgene Corporation) and President and Chief Executive Officer of Nora Therapeutics, Inc., each a privately held biotechnology company. Prior to that, Dr. Tong was VP of Corporate and Product Development at Infinity Pharmaceuticals, Inc., held a position at McKinsey & Co., and was a founding researcher at the Harvard Bauer Center for Genomics Research. Dr. Tong has served as a member of the board of directors of Rapport Therapeutics, Inc. (Nasdaq: RAPP), a publicly traded precision small molecule biopharmaceutical company, since December 2022, as well as on the boards of directors of numerous privately held biotechnology companies. Dr. Tong previously served on the board of directors of Nurix Therapeutics, Inc. (Nasdaq: NRIX), from February 2018 to May 2022. Dr. Tong obtained his A.B. in Biochemical Sciences from Harvard University, his A.M. and Ph.D. in Chemistry from Harvard Graduate School of Arts and Sciences and his M.M.S. from Harvard Medical School.

We believe that Dr. Tong is qualified to serve on our board of directors based on his significant experience building and leading successful biotechnology companies and his scientific expertise.

Abraham Bassan, M.S., has served as a member of our board of directors since November 2021. Since April 2021, Mr. Bassan has served as a Principal at Samsara, a privately held life science investment firm, where he served as a Vice President from July 2017 to April 2021. Since May 2022, Mr. Bassan has served as the interim CEO, President and a Director at Link Cell Therapies Inc., a privately held biotechnology company. From February 2021 to May 2022, Mr. Bassan served as President of Cargo Therapeutics, Inc. (Nasdaq: CRGX), a then privately held clinical-stage cell therapies company (Cargo Therapeutics). Prior to that, from December 2014 to July 2017, Mr. Bassan served as Director of Program Biology at Revolution Medicines, Inc. (Nasdaq: RVMD), a then privately held oncology company. Prior to that, from September 2012 to September 2014, Mr. Bassan served as the founder and Chief Executive Officer of Aurora Medical, Inc., a privately held molecular diagnostics testing services company. From 2010 to 2012, Mr. Bassan served as an Associate Director of Program Management at bluebird bio, Inc. (Nasdaq: BLUE) (bluebird bio), a then privately held

biotechnology company, where he was the Project Manager for several of the company's gene therapy programs. Earlier in his career, Mr. Bassan was an Associate at Third Rock Ventures, where he played a leading role in the firm's investment in bluebird bio, as well as the ideation of Blueprint Medicines Corporation (Nasdaq: BMPC), a publicly traded precision medicine oncology company. Mr. Bassan currently serves on the board of directors of Cargo Therapeutics. Mr. Bassan previously served on the board of directors of Graphite Bio, Inc. (merged with LENZ Therapeutics, Inc. (Nasdaq: LENZ)), from June 2020 to March 2024, and on the boards of directors of numerous privately held biotechnology companies. Mr. Bassan obtained his B.A. in Molecular Biology from Princeton University and his M.S. in Developmental Biology from Stanford University.

We believe that Mr. Bassan is qualified to serve as a member of our board of directors because of his education and experience in the life sciences and oncology fields, venture capital experience, as well as his service on the boards of directors of numerous companies.

Bernard Coulie, M.D., Ph.D., M.B.A., has served as a member of our board of directors since December 2023. Dr. Coulie has served as the President, Chief Executive Officer and a member of the board of directors of Pliant Therapeutics, Inc. (Nasdaq: PLRX) (Pliant), a publicly traded late-stage biopharmaceutical company, since February 2016. Prior to joining Pliant, Dr. Coulie co-founded ActoGeniX N.V. (ActoGeniX), a biopharmaceutical company, and held roles of increasing responsibility, including as Vice President R&D, Chief Medical Officer, and Chief Executive Officer, from September 2006 until February 2015, when it was acquired by Intrexon Corporation. Prior to co-founding ActoGeniX, Dr. Coulie held various positions with increasing responsibility in drug discovery and clinical development at Johnson & Johnson Pharmaceutical Research and Development Europe. Earlier in his career, Dr. Coulie was a Staff Physician in the Department of Gastroenterology and Hepatology at Mayo Clinic, Assistant Professor in Medicine at Mayo Medical School and a Mayo Foundation scholar. Dr. Coulie is currently serving as a director and chairman of Dualyx N.V., a privately held biotechnology company based in Belgium, and as a member of the board of directors of Charcot-Marie-Tooth Association, a non-profit patient advocacy organization dedicated to the development of new drugs to treat Charcot-Marie-Tooth disease. Dr. Coulie previously served as a director of SQZ Biotechnologies Company (acquired by STEMCELL Technologies Canada Acquisitions, Inc.) from July 2021 to March 2024, Calypso Biotech B.V. (acquired by Novartis AG (NYSE: NVS)) from February 2019 to January 2024, Myoscience, Inc. (acquired by Pacira BioSciences, Inc.) from June 2016 until March 2019, Biogazelle N.V. (acquired by CellCarta Biosciences Inc.) from July 2015 until November 2018, and ActoGeniX (acquired by Intrexon Corporation) from April 2010 until February 2015. Dr. Coulie is a board-certified internist and received his M.D. and Ph.D. from the University of Leuven, Belgium and his M.B.A. from the Vlerick Business School, Leuven, Belgium.

We believe Dr. Coulie is qualified to serve on our board of directors because of his extensive experience and expertise in operations management and executive leadership at various biopharmaceutical companies, as well as his service on the boards of directors of numerous companies.

Shalini Sharp, M.B.A., has served as a member of our board of directors since January 2024. Prior to joining us, Ms. Sharp served as Executive Vice President and Chief Financial Officer of Ultragenyx Pharmaceuticals Inc. (Nasdaq: RARE), a publicly traded biopharmaceutical company, from May 2012 to October 2020. Previously, from August 2003 to May 2012, Ms. Sharp held positions of increasing responsibility at Agenus, Inc. (Nasdaq: AGEN), a publicly traded clinical-stage immune-oncology company, including as Chief Financial Officer, and also served as a member of its board of directors from May 2012 to June 2018. Earlier in her career, Ms. Sharp worked at Elan Pharmaceuticals, McKinsey & Company, and Goldman Sachs. Ms. Sharp currently serves on the boards of directors of Neurocrine Biosciences, Inc. (Nasdaq: NBIX), a publicly traded biopharmaceutical company, and Organon & Co (Nasdaq: OGN), a publicly traded healthcare company. Ms. Sharp previously served on the board of directors of Mirati Therapeutics, Inc. (acquired by Bristol-Myers Squibb Company), a then publicly traded commercial-stage oncology company, from March 2021 to January 2024, Sutro Biopharma, Inc. (Nasdaq: STRO), a publicly traded biopharmaceutical company, from November 2018 to November 2023, Precision BioSciences, Inc. (Nasdaq: DTIL), a publicly traded gene editing company,

from December 2018 to June 2022 and Panacea Acquisition Corp. (Nasdaq: PANA), a special purpose acquisition company, from June 2020 until the completion of its business combination in February 2021. Ms. Sharp obtained her B.A. in English and American Literature and Languages from Harvard College and her M.B.A. from Harvard Business School.

We believe Ms. Sharp is qualified to serve on our board of directors because of her extensive experience and expertise in financial management and executive leadership at various biopharmaceutical companies, as well as her service on the boards of directors of numerous companies.

Jake Simson, Ph.D., has served as a member of our board of directors since June 2023. Dr. Simson has served as a Partner at RA Capital, a multi-stage life sciences investment firm, since December 2020. From July 2013 to December 2020, Dr. Simson served as an Associate, Analyst and then a Principal at RA Capital. Dr. Simson currently serves on the boards of directors of Janux Therapeutics, Inc. (Nasdaq: JANX), a publicly traded immunotherapy company, and Tyra Biosciences, Inc. (Nasdaq: TYRA), a publicly traded precision medicine company, as well as on the boards of directors of numerous privately-held biotechnology companies. Dr. Simson previously served on the board of directors of Dice Therapeutics, Inc. (Nasdaq: DICE), a publicly traded biopharmaceutical company, from December 2020 until August 2023, when it was acquired by Eli Lilly and Company. Dr. Simson obtained his S.B. in Materials Science and Engineering from the Massachusetts Institute of Technology and his Ph.D. in Biomedical Engineering from Johns Hopkins University.

We believe that Dr. Simson is qualified to serve on our board of directors because of his significant industry experience as an investor in the biopharmaceutical industry and educational background.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Board Composition

Our board of directors currently consists of seven members, each of whom is a member pursuant to the board composition provisions of our current certificate of incorporation and agreements with our stockholders, which agreements are described in the section titled "Certain Relationships and Related Party Transactions." These board composition provisions will terminate upon the completion of this offering. Upon the termination of these provisions, there will be no further contractual obligations regarding the election of our directors. Our nominating and corporate governance committee and our board of directors may therefore consider a broad range of factors relating to the qualifications and background of nominees. Our nominating and corporate governance committee's and our board of directors' priority in selecting board members is identification of persons who will further the interests of our stockholders through their established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business, understanding of the competitive landscape, professional and personal experiences and expertise relevant to our growth strategy. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal. Our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, and our amended and restated bylaws, which will become effective upon the effectiveness of our registration statement of which this prospectus forms a part, also provide that our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds of the votes that all our stockholders would be entitled to cast in an annual election of directors, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

Staggered Board

In accordance with the terms of our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, and our amended and restated bylaws, which will

be effective upon the effectiveness of the registration statement of which this prospectus forms a part, our board of directors will be divided into three staggered classes of directors and each director will be assigned to one of the three classes. At each annual meeting of the stockholders, one class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the annual meeting of stockholders to be held during the years 2025 for Class I directors, 2026 for Class II directors and 2027 for Class III directors.

- Our Class I directors will be ;
- Our Class II directors will be ; and
- Our Class III directors will be .

Our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, and our amended and restated bylaws, which will be effective upon the effectiveness of the registration statement of which this prospectus forms a part, will provide that the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

Director Independence

We intend to apply to list our common stock on the Nasdaq Global Market. Under the Nasdaq listing rules, independent directors must comprise a majority of a listed company's board of directors within one year from the date of listing. In addition, the Nasdaq listing rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and governance committees be independent within one year from the date of listing. Audit committee members must also satisfy additional independence criteria, including those set forth in Rule 10A-3 under the Exchange Act, and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under Nasdaq listing rules, a director will only qualify as an "independent director" if, in the opinion of that company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3 under the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee: (i) accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries, other than compensation for board service; or (ii) be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the board of directors must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director, and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

In connection with this offering, our board of directors undertook a review of the composition of our board of directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that all members of our board of directors, except are independent directors, including for purposes of Nasdaq and the SEC rules. In making that determination, our board of directors considered the relationships that each director has with us and all other facts and circumstances our board of directors deemed relevant in determining independence, including the potential deemed beneficial ownership of our capital stock by each director, including non-employee directors that are

affiliated with certain of our major stockholders. Upon the completion of this offering, we expect that the composition and functioning of our board of directors and each of our committees will comply with all applicable requirements of Nasdaq and the rules and regulations of the SEC.

We intend to adopt a policy, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, that outlines a process for our securityholders to send communications to our board of directors.

Board Diversity Policies

We intend to adopt policies and procedures for director candidates for our nominating and corporate governance committee, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, which will provide that the value of diversity should be considered in determining director candidates, as well as other factors, such as a candidate's character, judgment, skills, education, expertise, and absence of conflicts of interest. Our priority in selection of board members will be identification of members who will further the interests of our stockholders through their established records of professional accomplishment, their ability to contribute positively to the collaborative culture among board members, and their knowledge of our business and understanding of the competitive landscape in which we operate and adherence to high ethical standards. Our nominating and corporate governance committee and our full board of directors are committed to creating a board of directors with diversity, including diversity of expertise, experience, background, and gender, and are committed to identifying, recruiting, and advancing candidates offering such diversity in future searches.

Board Leadership Structure and Board's Role in Risk Oversight

Currently, the role of chairman of our board of directors is separated from the role of Chief Executive Officer. We believe that separating these positions allows our Chief Executive Officer to focus on our day-to-day business, while allowing the chairman to lead our board of directors in its fundamental role of providing advice to and independent oversight of management. Our board of directors recognizes the time, effort and energy that the Chief Executive Officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chairman, particularly as our board of directors' oversight responsibilities continue to grow. While our amended and restated bylaws and corporate governance guidelines do not require that our chairman and Chief Executive Officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

Risk is inherent with every business, and how well a business manages risk can ultimately determine its success. We face a number of risks, including risks relating to our financial condition, development and commercialization activities, operations, strategic direction, and intellectual property as more fully discussed in the section titled "Risk Factors." Management is responsible for the day-to-day management of risks we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management. In its risk oversight role, our board of directors has the responsibility to satisfy itself that the risk management processes designed and implemented by management are adequate and functioning as designed.

The role of our board of directors in overseeing the management of our risks is conducted primarily through committees of our board of directors, as disclosed in the descriptions of each of the committees below and in the charters of each of the committees. Our full board of directors (or the appropriate board committee in the case of risks that are under the purview of a particular committee) discusses with management our major risk exposures, their potential impact on us, and the steps we take to manage them. When a board committee is responsible for evaluating and overseeing the management of a particular risk or risks, the chairman of the relevant committee reports on the discussion to the full board of directors during the committee reports portion of the next board meeting. This enables our board of directors and its committees to coordinate the risk oversight role, particularly with respect to risk interrelationships.

Committees of Our Board of Directors

Our board of directors will establish an audit committee, a compensation committee and a nominating and corporate governance committee, each of which will operate pursuant to a charter to be adopted by our board of directors and will be effective upon the effectiveness of the registration statement of which this prospectus forms a part. We believe that the composition and functioning of all of our committees will comply with the applicable requirements of Nasdaq, the Sarbanes-Oxley Act and SEC rules and regulations that will be applicable to us. We intend to comply with future requirements to the extent they become applicable to us.

Following the completion of this offering, the full text of our audit committee charter, compensation committee charter and nominating and corporate governance committee charter will be posted on our website at *www.septerna.com*. We do not incorporate the information contained on, or accessible through, our corporate website into this prospectus, and you should not consider it a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference. Our board of directors may establish other committees as it deems necessary or appropriate from time to time.

Audit Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our audit committee will consist of and will be chaired by . The functions of the audit committee will include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending based upon the audit committee's review and discussions with management and our independent registered public accounting firm whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement;
- reviewing all related party transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing quarterly earnings releases.

All members of our audit committee will meet the requirements for financial literacy under the applicable rules and regulations of the SEC and the Nasdaq listing rules. Our board of directors has determined that qualifies as an "audit committee financial expert" within the meaning of applicable SEC

regulations. In making this determination, our board of directors considered the nature and scope of experience that has previously had with public reporting companies, including service as . Our board of directors has determined that all of the directors that will become members of our audit committee upon the effectiveness of the registration statement of which this prospectus forms a part satisfy the relevant independence requirements for service on the audit committee set forth in the rules of the SEC and the Nasdaq listing rules. Both our independent registered public accounting firm and management will periodically meet privately with our audit committee.

Compensation Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our compensation committee will consist of and will be chaired by . The functions of the compensation committee will include:

- annually reviewing and recommending to our board of directors the corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and based on such evaluation (i) reviewing and determining the cash compensation of our Chief Executive Officer and (ii) reviewing and approving grants and awards to our Chief Executive Officer under equity-based plans;
- reviewing and approving the compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq listing rules;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and recommending to our board of directors the compensation of our directors;
- preparing our compensation committee report if and when required by SEC rules;
- reviewing and discussing annually with management our "Compensation Discussion and Analysis," if and when required, to be included in our annual proxy statement; and
- reviewing and approving the retention or termination of any consulting firm or outside advisor to assist in the evaluation of compensation matters.

Each member of our compensation committee will be a non-employee director, as defined in Rule 16b-3 promulgated under the Exchange Act, and an outside director, as defined pursuant to Section 162(m) of the Internal Revenue Code of 1986, as amended (Code).

Nominating and Corporate Governance Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our nominating and corporate governance committee will consist of and will be chaired by . The functions of the nominating and corporate governance committee will include:

- developing and recommending to our board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the composition of our board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;

- identifying individuals qualified to become members of our board of directors;
- recommending to our board of directors the persons to be nominated for election as directors and to each of its committees;
- developing and recommending to our board of directors a code of business conduct and ethics and a set of corporate governance guidelines; and
- overseeing the evaluation of our board of directors and management.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is, or has at any time during the prior three years been, one of our officers or employees. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Code of Business Conduct and Ethics

Our board of directors intends to adopt, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, a written code of business conduct and ethics in connection with this offering. The code of business conduct and ethics will apply to all of our directors, officers and employees (including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions). Upon the completion of this offering, the full text of our code of business conduct and ethics will be posted on our website at *www.septerna.com*.

We intend to disclose on our website any future amendments of our code of business conduct and ethics or waivers that exempt any principal executive officer, principal financial officer, principal accounting officer or controller, persons performing similar functions, or our directors from provisions in the code of business conduct and ethics. The information contained in or accessible from our website is not incorporated into this prospectus, and you should not consider it part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

Compensation Recovery

Our board of directors intends to adopt, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, a compensation recovery policy that is compliant with the Nasdaq listing rules, as required by the Dodd-Frank Act. The compensation recovery policy will provide that in the event we are required to prepare a restatement of financial statements due to material noncompliance with any financial reporting requirement under securities laws, we will seek to recover any incentive-based compensation that was based upon the attainment of a financial reporting measure and that was received by any current or former executive officer during the three-year period preceding the date that the restatement was required if such compensation exceeds the amount that the executive officers would have received based on the restated financial statements.

Limitations on Liability and Indemnification Agreements

As permitted by Delaware law, provisions in our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, and our amended and restated bylaws, which will be effective upon the effectiveness of the registration statement of which this prospectus forms a part, limit or eliminate the personal liability of directors and officers for a breach of their fiduciary duty of care as a director or officer. The duty of care generally requires that, when acting on behalf of the corporation, a director and or officer exercise an informed business judgment based on all material information reasonably available to

him or her. Consequently, a director or officer will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director or officer, except for liability for:

- any breach of the director's or officer's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- for our directors, unlawful payments of dividends or unlawful stock repurchases, or redemptions as provided in Section 174 of the Delaware General Corporation Law (DGCL);
- for our officers, any derivative action by or in the right of the corporation; or
- any transaction from which the director or officer derived an improper personal benefit.

These limitations of liability do not limit or eliminate our rights or any stockholder's rights to seek non- monetary relief, such as injunctive relief or rescission. These provisions will not alter a director or officer's liability under other laws, such as the federal securities laws or other state or federal laws. Our amended and restated certificate of incorporation that will become effective upon the completion of this offering also authorizes us to indemnify our officers, directors and other agents to the fullest extent permitted under Delaware law.

As permitted by Delaware law, our amended and restated bylaws, which will be effective upon the effectiveness of the registration statement of which this prospectus forms a part, will provide that:

- we will indemnify our directors, officers, employees and other agents to the fullest extent permitted by law;
- we must advance expenses to our directors and officers, and may advance expenses to our employees and other agents, in connection with a legal proceeding to the fullest extent permitted by law; and
- the rights provided in our amended and restated bylaws are not exclusive.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director or officer, then the liability of our directors or officers will be so eliminated or limited to the fullest extent permitted by Delaware law, as so amended. Our amended and restated bylaws will also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our amended and restated bylaws permit such indemnification. We have obtained such insurance.

In addition to the indemnification that will be provided for in our amended and restated certificate of incorporation and amended and restated bylaws, we plan to enter into separate indemnification agreements with each of our directors and executive officers, which may be broader than the specific indemnification provisions contained in the DGCL. These indemnification agreements may require us, among other things, to indemnify our directors and executive officers for some expenses, including attorneys' fees, expenses, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of his service as one of our directors or executive officers or any other company or enterprise to which the person provides services at our request. We believe that these provisions and agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

This description of the indemnification provisions of our amended and restated certificate of incorporation, our amended and restated bylaws and our indemnification agreements is qualified in its entirety by reference to these documents, each of which is attached as an exhibit to the registration statement of which this prospectus forms a part.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in

the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act, and is, therefore, unenforceable.

There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

EXECUTIVE COMPENSATION

The following discussion contains forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding our future compensation programs. The actual amount and form of compensation and the compensation policies and practices that we adopt in the future may differ materially from currently planned programs as summarized in this discussion.

As an emerging growth company, we have opted to comply with the executive compensation disclosure rules applicable to "smaller reporting companies," as such term is defined in the rules promulgated under the Exchange Act. The compensation provided to our named executive officers (NEOs) for the fiscal year ended December 31, 2023 is detailed in the "*2023 Summary Compensation Table*" and accompanying footnotes and narrative that follow. Our NEOs for the fiscal year ended December 31, 2023 consist of our Chief Executive Officer and the two most highly compensated executive officers (other than our Chief Executive Officer) who were serving as our executive officers on December 31, 2023. In addition, while we are required to disclose a total of three NEOs, we are voluntarily including two additional NEOs, Drs. Long and Klein, given their roles with the Company during the fiscal year ended December 31, 2023. Accordingly, our NEOs for the fiscal year ended December 31, 2023 are:

- Jeffrey Finer, M.D., Ph.D., our President and Chief Executive Officer;
- Liz Bhatt, M.S., M.B.A., our Chief Operating Officer;
- Samira Shaikhly, our Chief People Officer;
- Daniel Long, D.Phil., our Senior Vice President, Drug Discovery; and
- Uwe Klein, Ph.D., our Senior Vice President, Biological Sciences.

To date, the compensation of our NEOs has consisted of a combination of base salary, cash bonuses and long-term incentive compensation in the form of restricted stock awards and stock options. Our NEOs who are full-time employees are eligible to participate in our health and welfare benefit plans and 401(k) plan like all of our full-time employees. As we transition from a private company to a publicly traded company, we intend to evaluate our compensation values and philosophy and compensation plans and arrangements as circumstances require.

2023 Summary Compensation Table

The following table sets forth information regarding compensation awarded to, earned by, and/or paid to our NEOs for services rendered to us in all capacities during the fiscal year ended December 31, 2023.

Name and Principal Position	Year	Salary($)	Bonus($)[1]	Stock Awards ($)	Option Awards($)[2]	All Other Compensation($)[3]	Total($)
Jeffrey Finer, M.D., Ph.D. *Chief Executive Officer*	2023	501,396	284,310	—	1,347,554	3,000	2,136,260
Liz Bhatt, M.S., M.B.A. *Chief Operating Officer*	2023	413,253	203,270	—	264,173	3,000	883,696
Samira Shaikhly, *Chief People Officer*[4]	2023	322,083	182,094	—	235,359	3,000	742,536
Daniel Long, D.Phil., *SVP, Drug Discovery*	2023	369,357	212,090[5]	—	62,296	3,000	646,743
Uwe Klein, Ph.D., *SVP, Biological Sciences*	2023	363,627	149,607	—	62,296	3,000	578,530

(1) The amounts reported consist of (i) for Dr. Finer, Ms. Bhatt, Ms. Shaikhly, Dr. Long and Dr. Klein, $284,310, $203,270, $132,094, $149,590 and $149,607, respectively, for discretionary annual bonuses earned for the fiscal year ended December 31, 2023 and (ii) for Ms. Shaikhly and Dr. Long, $50,000 and $62,500, respectively, for sign-on bonuses.

(2) The amounts reported represent the aggregate grant date fair value of stock options awarded to our NEOs during the fiscal year ended December 31, 2023, calculated in accordance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 718, disregarding estimated forfeitures related to service-based vesting. For a description of the assumptions used in determining these values, see Note 10—"*Stock-Based Compensation*" to our financial statements included elsewhere in this prospectus. The amount reported in this column reflects the accounting cost for the stock options and does not correspond to the actual economic value that may be received by our NEOs upon the exercise of the stock options or any sale of the underlying shares.
(3) The amounts reported represent 401(k) matching contributions made by the Company to our NEOs.
(4) Ms. Shaikhly commenced employment with the Company on February 1, 2023 and her annual base salary and annual bonus for 2023 were pro-rated accordingly.
(5) Dr. Long commenced employment with the Company on October 4, 2021 and his sign-on bonus was paid in two tranches: (i) $62,500 within 30 days of January 1, 2022 and (ii) $62,500 within 30 days of January 1, 2023, subject to his continued employment with the Company through each such date of payment.

Narrative to the 2023 Summary Compensation Table

2023 Base Salaries

Our NEOs each receive a base salary to compensate them for services rendered to us. The base salary payable to each NEO is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities. Base salaries are reviewed annually, typically in connection with our annual performance review process, approved by our board of directors or the compensation committee of our board of directors (compensation committee), and may be adjusted from time to time to realign salaries with market levels after taking into account individual responsibilities, performance, and experience.

From January 1, 2023 through October 31, 2023, the annual base salaries for Dr. Finer, Ms. Bhatt and Dr. Klein were $496,375, $409,863, and $362,472, respectively. Ms. Shaikhly commenced employment with us on February 1, 2023 and her annual base salary from February 1, 2023 through October 31, 2023 was $350,000. Effective November 1, 2023, the annual base salaries for Dr. Finer, Ms. Bhatt, Ms. Shaikhly, and Dr. Klein increased to $526,500, $430,200, $357,500, $369,400, respectively. Dr. Long's annual base salary for the entire fiscal year ended December 31, 2023 was $369,357.

2023 Cash Incentive Compensation

For the fiscal year ended December 31, 2023, each of our NEOs was eligible to earn a discretionary annual bonus based on the Company's achievement of certain corporate performance objectives, as determined by our board of directors. The 2023 target annual bonuses for Dr. Finer and Ms. Bhatt were 40% and 35%, respectively, and 30% for Ms. Shaikhly, Dr. Long and Dr. Klein, of the applicable NEO's annual base salary. The corporate performance objectives for our NEOs' 2023 annual bonuses were based on the Company's achievement of certain program, platform and finance/business development goals, which were determined to have been achieved at 135% of target. The discretionary annual bonuses received by each NEO with respect to the fiscal year ended December 31, 2023 were $284,310, $203,270, $132,094, $149,590 and $149,607 for Dr. Finer, Ms. Bhatt, Ms. Shaikhly, Dr. Long and Dr. Klein, respectively. Ms. Shaikhly's 2023 annual bonus was pro-rated based on her commencement of employment with the Company effective February 1, 2023.

In connection with Ms. Shaikhly's and Dr. Long's commencement of employment, they were also entitled to a $50,000 and $62,500, respectively, sign-on bonus payable in 2023, subject to their continued employment with the Company through the date of payment. For Ms. Shaikhly, her sign-on bonus is subject to full repayment if she (i) is terminated by the Company for "cause," as defined in the Shaikhly Offer Letter (as defined below) or (ii) resigns from the Company for any reason, in either case prior to the second anniversary of the payment of the sign-on bonus.

Equity-Based Compensation

Although we do not have a formal policy with respect to the grant of equity incentive awards to our executive officers, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interests of our executives and our stockholders. In addition, we believe that equity grants promote executive retention because they incentivize our executive officers to remain in our employment during the vesting period.

Accordingly, our board of directors periodically reviews the equity incentive compensation of our executive officers and may grant equity incentive awards to them from time to time. During the fiscal year ended December 31, 2023, we granted option awards to our NEOs under the 2021 Plan as described in more detail in the "*Outstanding Equity Awards at 2023 Fiscal Year-End*" table below.

Perquisites or Personal Benefits

Perquisites and other personal benefits are not a significant component of our executive compensation program. Accordingly, we do not provide perquisites or personal benefits to our NEOs with an aggregate amount equal to or greater than $10,000.

401(k) Plan

We currently maintain a tax-qualified 401(k) retirement savings plan (401(k) plan) for our employees, including our NEOs, who satisfy certain eligibility requirements. Our NEOs are eligible to participate in the 401(k) plan on the same terms as other full-time employees. Our 401(k) plan is intended to qualify for favorable tax treatment under Section 401(a) of the Code and contains a cash or deferred feature that is intended to meet the requirements of Section 401(k) of the Code. Our 401(k) plan allows for discretionary matching contributions under the plan and in 2023, we provided discretionary matching contributions equal to 50% of up to the first 8% of eligible compensation, capped at $3,000 annually per employee. 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 NEOs, in accordance with our compensation policies. Other than the 401(k) plan, we do not provide any qualified or non-qualified retirement or deferred compensation benefits to our employees, including our NEOs.

Executive Employment Arrangements

We have entered into an offer letter with each of our NEOs in connection with his or her employment with us, which set forth the terms and conditions of his or her employment, as applicable. The material terms of such offer letters are described below. In connection with this offering, we intend to adopt a new executive severance plan, or the Executive Severance Plan, which will become effective upon the closing of this offering. Each of the NEOs may participate in the Executive Severance Plan. The Executive Severance Plan will provide for certain payments and benefits in the event of a termination of employment, including an involuntary employment in connection with a change in control of the Company, and will replace the severance provisions in the NEOs' offer letters, if any.

Prior Employment Arrangements in Place During the 2023 Fiscal Year

Jeffrey Finer, M.D., Ph.D.

On September 9, 2022, we entered into an offer letter with Dr. Finer effective as of September 13, 2022, for the position of our Chief Executive Officer (Finer Offer Letter). The Finer Offer Letter provided for Dr. Finer's at-will employment, and an initial annual base salary and initial target annual bonus, each of which has subsequently been increased as described above under "*2023 Base Salaries*" and "*2023 Cash Incentive Compensation*." The Finer Offer Letter also provided for a one-time $100,000 sign on bonus and the grant of an award of restricted stock. Dr. Finer is eligible to participate in the employee benefit plans generally available to our employees, subject to the terms of those plans.

The Finer Offer Letter provides that in the event that Dr. Finer's employment is terminated by the Company without "cause" or he resigns for "good reason" in either case outside a "change of control period" (each as defined in the Finer Offer Letter), subject to Dr. Finer's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, he will be entitled to receive (i) base salary continuation for 12 months following termination and (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Dr. Finer had he remained employed with the Company until the earliest of (A) 12 months following termination, (B) Dr. Finer becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Dr. Finer's COBRA health continuation period.

In addition, the Finer Offer Letter provides that in the event that Dr. Finer's employment is terminated by the Company without "cause" or he resigns for "good reason", in either case within a "change of control period," subject to Dr. Finer's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, in lieu of the payments and benefits described above, he will be entitled to receive (i) base salary continuation for 12 months following termination, (ii) the amount of his then-current target bonus for the year of termination, (iii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Dr. Finer had he remained employed with the Company until the earliest of (A) 12 months following termination, (B) Dr. Finer becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Dr. Finer's COBRA health continuation period, and (iv) accelerated vesting of all time-based stock options and other time-based stock-based awards.

Dr. Finer also entered into a standard form agreement with respect to confidential information, intellectual property assignment and non-solicitation restrictions.

Liz Bhatt, M.S., M.B.A.

On May 20, 2022, the Company entered into an offer letter with Ms. Bhatt effective as of June 15, 2022, for the position of our Chief Operating Officer (Bhatt Offer Letter). The Bhatt Offer Letter provides for Ms. Bhatt's at-will employment, and an initial annual base salary and initial target annual bonus, each of which has subsequently been increased as described above under "*2023 Base Salaries*" and "*2023 Cash Incentive Compensation*." The Bhatt Offer Letter also provided for a one-time $60,000 sign on bonus and the grant of an award of restricted stock. Ms. Bhatt is eligible to participate in the employee benefit plans generally available to employees, subject to the terms of those plans.

The Bhatt Offer Letter provides that in the event that Ms. Bhatt's employment is terminated by the Company without "cause" outside a "change of control period" (each as defined in the Bhatt Offer Letter), subject to Ms. Bhatt's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, she will be entitled to receive (i) base salary continuation for nine months following termination and (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Ms. Bhatt had she remained employed with the Company until the earliest of (A) nine months following termination, (B) Ms. Bhatt becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Ms. Bhatt's COBRA health continuation period.

In addition, the Bhatt Offer Letter provided that in the event that Ms. Bhatt's employment was terminated by the Company without "cause" within a "change of control period," subject to Ms. Bhatt's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, in lieu of the payments and benefits described above, she would have been entitled to receive (i) base salary continuation for nine months following termination, (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Ms. Bhatt had she remained

employed with the Company until the earliest of (A) nine months following termination, (B) Ms. Bhatt becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Ms. Bhatt's COBRA health continuation period, and (iii) accelerated vesting of all time-based stock options and other time-based stock-based awards.

Ms. Bhatt also entered into a standard form agreement with respect to confidential information, intellectual property assignment and non-solicitation restrictions.

Samira Shaikhly, M.S.

On December 22, 2022, the Company entered into an offer letter with Ms. Shaikhly effective as of February 1, 2023, for the position of our Chief People Officer (Shaikhly Offer Letter). The Shaikhly Offer Letter provides for Ms. Shaikhly's at-will employment, and an initial annual base salary and initial target annual bonus, each of which has subsequently been increased as described above under "*2023 Base Salaries*" and "*2023 Cash Incentive Compensation*." The Shaikhly Offer Letter also provided for the grant of an award of stock options and a $50,000 sign-on bonus subject to full repayment if Ms. Shaikhly (i) is terminated by the Company for "cause" (as defined in the Shaikhly Offer Letter) or (ii) resigns from the Company for any reason, in either case prior to the second anniversary of the payment of the sign-on bonus. Ms. Shaikhly is eligible to participate in the employee benefit plans generally available to employees, subject to the terms of those plans.

The Shaikhly Offer Letter provides that in the event that Ms. Shaikhly's employment is terminated by the Company without "cause" outside a "change of control period" (each as defined in the Shaikhly Offer Letter), subject to Ms. Shaikhly's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, she will be entitled to receive (i) base salary continuation for six months following termination and (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Ms. Shaikhly had she remained employed with the Company until the earliest of (A) six months following termination, (B) Ms. Shaikhly becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Ms. Shaikhly's COBRA health continuation period.

In addition, the Shaikhly Offer Letter provides that in the event that Ms. Shaikhly's employment is terminated by the Company without "cause" within a "change of control period," subject to Ms. Shaikhly's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, in lieu of the payments and benefits described above, she will be entitled to receive (i) base salary continuation for six months following termination, (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Ms. Shaikhly had she remained employed with the Company until the earliest of (A) six months following termination, (B) Ms. Shaikhly becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Ms. Shaikhly's COBRA health continuation period, and (iii) accelerated vesting of all time-based stock options and other time-based stock-based awards.

Ms. Shaikhly also entered into a standard form agreement with respect to confidential information, intellectual property assignment and non-solicitation restrictions.

Daniel Long, D.Phil.

On September 27, 2021, the Company entered into an offer letter with Dr. Long effective as of October 4, 2021, for the position of our Senior Vice President, Drug Discovery (Long Offer Letter). The Long Offer Letter provides for Dr. Long's at-will employment, and an initial annual base salary and initial target annual bonus, each of which has subsequently been increased as described above under "*2023 Base Salaries*" and "*2023 Cash Incentive Compensation*." The Long Offer Letter also provided for the grant of an award of restricted stock and a sign-on bonus subject to two disbursements: (i) $62,500 which was paid within 30 days of January 1, 2022 and (ii) $62,500 which was paid within 30 days of January 1, 2023, subject to Dr. Long's continuous employment

with the Company through each such date. Dr. Long is eligible to participate in the employee benefit plans generally available to employees, subject to the terms of those plans.

The Long Offer Letter provides that in the event that Dr. Long's employment is terminated by the Company without "cause" outside a "change of control period" (each as defined in the Long Offer Letter), subject to Dr. Long's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, he will be entitled to receive (i) base salary continuation for six months following termination and (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Dr. Long had he remained employed with the Company until the earliest of (A) six months following termination, (B) Dr. Long becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Dr. Long's COBRA health continuation period.

In addition, the Long Offer Letter provides that in the event that Dr. Long's employment is terminated by the Company without "cause" within a "change of control period," subject to Dr. Long's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, in lieu of the payments and benefits described above, he will be entitled to receive (i) base salary continuation for six months following termination, (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Dr. Long had he remained employed with the Company until the earliest of (A) six months following termination, (B) Dr. Long becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Dr. Long's COBRA health continuation period, and (iii) accelerated vesting of all time-based stock options and other time-based stock-based awards.

Dr. Long also entered into a standard form agreement with respect to confidential information, intellectual property assignment and non-solicitation restrictions.

Uwe Klein, Ph.D.

On February 17, 2021, the Company entered into an offer letter with Dr. Klein effective as of November 1, 2021, for the position of our Senior Vice President, Biological Sciences (Klein Offer Letter). The Klein Offer Letter provides for Dr. Klein's at-will employment, and an initial annual base salary and initial target annual bonus, each of which has subsequently been increased as described above under "*2023 Base Salaries*" and "*2023 Cash Incentive Compensation*." The Klein Offer Letter also provides for the a one-time $100,000 sign on bonus and, at Dr. Klein's option, either grant of an award of restricted stock or an award of stock options. Dr. Klein is eligible to participate in the employee benefit plans generally available to employees, subject to the terms of those plans.

The Klein Offer Letter provides that in the event that Dr. Klein's employment is terminated by the Company without "cause" outside a "change of control period" (each as defined in the Klein Offer Letter), subject to Dr. Klein's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, he will be entitled to receive (i) base salary continuation for six months following termination and (ii) monthly payments of the portion of the premiums equal to the amounts that the Company would have paid to provide health insurance to Dr. Klein had he remained employed with the Company until the earliest of (A) six months following termination, (B) Dr. Klein becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Dr. Klein's COBRA health continuation period.

In addition, the Klein Offer Letter provides that in the event that Dr. Klein's employment is terminated by the Company without "cause" within a "change of control period," subject to Dr. Klein's execution and delivery of an irrevocable separation agreement, including a general release of claims in the Company's favor, in lieu of the payments and benefits described above, he will be entitled to receive (i) base salary continuation for six months following termination, (ii) monthly payments of the portion of the premiums equal to the amounts that

the Company would have paid to provide health insurance to Dr. Klein had he remained employed with the Company until the earliest of (A) six months following termination, (B) Dr. Klein becoming eligible for group medical plan benefits under any other employer's group health plan or (C) the end of Dr. Klein's COBRA health continuation period, and (iii) accelerated vesting of all time-based stock options and other time-based stock-based awards.

Dr. Klein also entered into a standard form agreement with respect to confidential information, intellectual property assignment and non-solicitation restrictions.

Outstanding Equity Awards at Fiscal 2023 Year-End

The following table sets forth information concerning outstanding equity awards held by our NEOs as of December 31, 2023.

			Option Awards[1]				Stock Awards[1]	
Name	Grant Date	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)[2]
Jeffrey Finer, M.D., Ph.D.	9/13/2022	8/2/2022	—	—	—	—	3,000,000[3]	1,620,000
	11/12/2023	8/1/2023	324,474[3]	3,569,215 [3]	0.32	11/11/2033		
Liz Bhatt, M.S., M.B.A.	9/13/2022	6/15/2022	—	—	—	—	937,500[4]	506,250
	11/12/2023	8/1/2023	63,609[3]	699,704[3]	0.32	11/11/2033		
Samira Shaikhly	3/31/2023	2/1/2023	—[4]	600,000[4]	0.18	3/30/2033		
	11/12/2023	2/1/2023	—[4]	130,000[4]	0.32	11/11/2033		
Daniel Long, D.Phil.	10/26/2021	11/2/2021	—	—	—	—	400,000[5]	216,000
	11/12/2023	8/1/2023	15,000[3]	165,000[3]	0.32	11/11/2033		
Uwe Klein, Ph.D.	10/26/2021	4/1/2021	—	—	—	—	300,000[4]	162,000
	11/12/2023	8/1/2023	15,000[3]	165,000[3]	0.32	11/11/2033		

(1) Each equity award is subject to the terms of the 2021 Plan (as described below).

(2) This amount is based on the fair market value of a share of our common stock equal to $0.54 as of December 31, 2023, as determined by our board of directors.

(3) The shares underlying the stock option award or restricted stock award, as applicable, vest in 48 equal monthly installments over a four-year period, commencing on the vesting commencement date, subject to the applicable NEO's continued service relationship through each applicable vesting date. The award is also subject to certain acceleration of vesting rights as set forth in the applicable NEO's Offer Letter, as described above.

(4) The shares underlying the stock option award or restricted stock award, as applicable, vest as follows: 25% of such shares vested on the first anniversary of the vesting commencement date, and the remaining 75% of the shares vest in 36 equal monthly installments over the following three years, subject to the applicable NEO's continued service relationship through each applicable vesting date. The award is also subject to certain acceleration of vesting rights as set forth in the applicable NEO's Offer Letter, as described above.

(5) The shares underlying the restricted stock award vest as follows: 25% of such shares vested on December 1, 2022, and the remaining 75% of the shares vest in 36 equal monthly installments over the following three years, subject to the applicable NEO's continued service relationship through each applicable vesting date. The award is also subject to certain acceleration of vesting rights as set forth in the applicable NEO's Offer Letter, as described above.

Employee Benefit and Equity Compensation Plans

2021 Stock Option and Grant Plan

The 2021 Plan was initially approved and adopted by our board of directors and stockholders on October 26, 2021 and has been subsequently amended from time to time thereafter to increase the number of shares reserved

for issuance thereunder. Under the 2021 Plan, we have reserved for issuance an aggregate of 36,524,157 shares of our common stock for the issuance of stock options and other equity awards. This number of shares of our common stock reserved for issuance is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization. As of December 31, 2023, options to purchase 9,672,202 shares of our common stock and 6,666,362 shares of our restricted stock were outstanding under the 2021 Plan and 1,961,671 shares of our restricted stock were outstanding from grants made outside of the 2021 Plan. Our board of directors has determined not to make any further awards under the 2021 Plan following the completion of this offering, but all outstanding awards under the 2021 Plan will continue to be governed by their existing terms. The maximum number of shares that may be issued as incentive stock options under the 2021 Plan may not exceed 365,241,570 shares. In connection with this offering, we intend to adopt a new incentive equity plan under which we will grant equity-based awards following this offering, as described below under "*2024 Stock Option and Grant Plan*." This summary is not a complete description of all provisions of the 2021 Plan and is qualified in its entirety by reference to the 2021 Plan, which will be filed as an exhibit to the registration statement of which this prospectus is part.

The shares of our common stock underlying any awards that are forfeited, cancelled, reacquired by us prior to vesting, satisfied without the issuance of stock or otherwise terminated (other than by exercise), or held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding under the 2021 Plan will be added back to the shares of our common stock available for issuance under the 2021 Plan (or, following the completion of this offering, the 2024 Plan (as defined below)).

Our board of directors has acted as administrator of the 2021 Plan. The administrator has full power to, among other things, select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, to accelerate at any time the exercisability or vesting of any award and to determine the specific terms and conditions of each award, subject to the provisions of the 2021 Plan. Persons eligible to participate in the 2021 Plan are those full or part-time officers, employees, non-employee directors, consultants, and key persons as selected from time to time by the administrator in its discretion.

The 2021 Plan permits the granting of both options to purchase shares of our common stock intended to qualify as incentive stock options under Section 422 of the Code and options that do not so qualify. The option exercise price of each option will be determined by the administrator but may not be less than 100% of the fair market value of our common stock on the date of grant, or in the case of an incentive stock option granted to a 10% owner, the exercise price shall not be less than 110% of the fair market value of our common stock on the date of grant. The term of each option will be fixed by the 2021 Plan administrator and may not exceed ten years from the date of grant, or five years from the date of grant in the case of an incentive stock option granted to a 10% owner. The 2021 Plan administrator will determine at what time or times each option may be exercised.

The 2021 Plan administrator may award restricted shares of our common stock and restricted stock units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include continued employment with us through a specified vesting period and/or the achievement of certain performance goals.

The 2021 Plan administrator may also grant shares of our common stock that are free from any restrictions under the 2021 Plan. Unrestricted stock may be granted to participants in recognition of past services or for other valid consideration and may be issued in lieu of cash compensation due to such participant.

In the event of certain corporate transactions and events, including a reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split, or other similar change to the Company's capital stock, the 2021 Plan administrator shall make appropriate adjustments to the maximum number of shares reserved for issuance under the 2021 Plan, the number and kind of securities subject to outstanding awards under the 2021 Plan and the repurchase or exercise price of any outstanding awards under the 2021 Plan.

Upon the effective time of a "sale event" (as defined in the 2021 Plan), all outstanding option awards granted under the 2021 Plan shall terminate unless assumed, substituted, or continued by a successor entity. In the event of such termination, individuals holding options will be permitted to exercise such options within a specified period of time prior to the sale event. In the event of a sale event, all unvested restricted stock awards and restricted stock units (other than those that become vested as a result of the sale event) will be forfeited unless assumed, substituted, or continued by a successor entity. With respect to individuals holding restricted stock that is forfeited upon a sale event, such restricted stock shall be repurchased by the Company at a price per share equal to the original per share purchase price paid by the holder for such shares of our restricted stock. In addition, in connection with a sale event, we may make or provide for a cash payment to participants in exchange for the cancellation of their options (to the extent then vested and exercisable, including by reason of acceleration in connection with such sale event) or outstanding restricted stock or restricted stock units, in an amount equal to the difference between (a) the per share consideration in the sale event times the number of shares subject to such awards being cancelled and (b) the aggregate exercise price of such outstanding vested and exercisable stock options, as applicable, with any such cash payments in respect of restricted stock or restricted stock units to be paid at the time of the sale event or upon the later vesting of such awards.

Our board of directors may amend or discontinue the 2021 Plan and the 2021 Plan administrator may amend or cancel outstanding awards for purposes of satisfying changes in law or any other lawful purpose, but no such action may adversely affect rights under any outstanding award without the holder's consent. Certain amendments to the 2021 Plan require the approval of our stockholders. The 2021 Plan administrator may exercise its discretion to reduce the exercise price of outstanding stock options or to effect repricing through the cancellation of outstanding stock options and grant of replacement awards.

No awards may be granted under the 2021 Plan after the date that is ten years from the effective date of the 2021 Plan.

2024 Stock Option and Grant Plan

The 2024 Plan was adopted by our board of directors on , 2024, approved by our stockholders on , 2024, and will become effective upon the date immediately preceding the date on which the registration statement of which this prospectus is part is declared effective by the SEC. The 2024 Plan will replace the 2021 Plan as our board of directors has determined not to make additional awards under the 2021 Plan following the completion of this offering. However, the 2021 Plan will continue to govern outstanding equity awards granted thereunder. The 2024 Plan allows us to make equity-based and cash-based incentive awards to our officers, employees, directors and consultants. The following summary describes the material terms of the 2024 Plan. This summary is not a complete description of all provisions of the 2024 Plan and is qualified in its entirety by reference to the 2024 Plan, which will be filed as an exhibit to the registration statement to which this prospectus is a part.

We have initially reserved shares of our common stock for the issuance of awards under the 2024 Plan (Initial Limit). The 2024 Plan provides that the number of shares reserved and available for issuance under the 2024 Plan will automatically increase on January 1, 2025 and each January 1 thereafter through January 1, 2034, by % of the outstanding number of shares of our common stock on the immediately preceding December 31 or such lesser number of shares as determined by our compensation committee (Annual Increase). The number of shares reserved under the 2024 Plan is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization.

The shares we issue under the 2024 Plan will be authorized but unissued shares or shares that we reacquire. The shares of our common stock underlying any awards under the 2024 Plan and the 2021 Plan that are forfeited, cancelled, held back upon exercise or settlement of an award to satisfy the exercise price or tax withholding, reacquired by us prior to vesting, satisfied without the issuance of stock, expire or are otherwise terminated (other than by exercise) will be added back to the shares of our common stock available for issuance under the 2024 Plan.

The maximum number of shares of our common stock that may be issued in the form of incentive stock options shall not exceed the Initial Limit, cumulatively increased on January 1, 2025 and on each January 1 thereafter by the lesser of the Annual Increase for such year or shares of our common stock.

The grant date fair value of all awards made under our 2024 Plan and all other cash compensation paid by us to any non-employee director in any calendar year for services as a non-employee director shall not exceed $; provided, however, that such amount shall be $ for the calendar year in which the applicable non-employee director is initially elected or appointed to our board of directors.

The 2024 Plan will be administered by our compensation committee. Our compensation committee has the full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted and the number of shares subject to such awards, to make any combination of awards to participants, to accelerate at any time the exercisability or vesting of any award and to determine the specific terms and conditions of each award, subject to the provisions of the 2024 Plan. Persons eligible to participate in the 2024 Plan will be those full or part-time officers, employees, non-employee directors and consultants as selected from time to time by our compensation committee in its discretion.

The 2024 Plan permits the granting of both options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code and options that do not so qualify. The option exercise price of each option will be determined by our compensation committee but may not be less than 100% of the closing price of our common stock on the date of grant (or, if no closing price is reported on that date, the closing price on the immediately preceding date on which a closing price was reported) (110% in the case of certain incentive stock options) unless the option (i) is granted pursuant to a transaction described in, and in a manner consistent with Section 424(a) of the Code, (ii) is granted to an individual who is not subject to U.S. income tax, or (iii) complies with or is exempt from Section 409A of the Code. The term of each option will be fixed by our compensation committee and may not exceed ten years from the date of grant (or five years in the case of certain incentive stock options). Our compensation committee will determine at what time or times each option may be exercised.

Our compensation committee may award stock appreciation rights under the 2024 Plan subject to such conditions and restrictions as it may determine. Stock appreciation rights entitle the recipient to shares of our common stock, or cash, equal to the value of the appreciation in our stock price over the exercise price. The exercise price of each stock appreciation right generally may not be less than 100% of the closing price of our common stock on the date of grant (or, if no closing price is reported on that date, the closing price on the immediately preceding date on which a closing price was reported) unless the share appreciation right (i) is granted pursuant to a transaction described in, and in a manner consistent with Section 424(a) of the Code, (ii) is granted to an individual who is not subject to U.S. income tax, or (iii) complies with or is exempt from Section 409A of the Code. The term of each stock appreciation right will be fixed by our compensation committee and may not exceed 10 years from the date of grant. Our compensation committee will determine at what time or times each stock appreciation right may be exercised.

Our compensation committee may award restricted shares of our common stock and restricted stock units to participants subject to such conditions and restrictions as it may determine. These conditions and restrictions may include the achievement of certain performance goals and/or continued employment with us through a specified vesting period. Our compensation committee may also grant shares of our common stock that are free from any restrictions under the 2024 Plan. Unrestricted stock may be granted to participants in recognition of past services or for other valid consideration and may be issued in lieu of cash compensation due to such participant.

Our compensation committee may grant dividend equivalent rights to participants that entitle the recipient to receive credits for dividends that would be paid if the recipient had held a specified number of shares of our common stock.

Our compensation committee may grant cash bonuses under the 2024 Plan to participants, subject to the achievement of certain performance goals.

The 2024 Plan provides that upon the effectiveness of a "sale event," as defined in the 2024 Plan, an acquirer or successor entity may assume, continue or substitute outstanding awards under the 2024 Plan. To the extent that awards granted under the 2024 Plan are not assumed or continued or substituted by the successor entity, upon the effective time of the sale event, such awards shall terminate. In such case, except as may be otherwise provided in the relevant award agreement, all awards with time-based vesting, conditions or restrictions shall become fully vested and nonforfeitable as of the effective time of the sale event and all awards with conditions and restrictions relating to the attainment of performance goals may become vested and nonforfeitable in connection with a sale event in the administrator's discretion or to the extent specified in the relevant award agreement. In the event of such termination, (i) individuals holding options and stock appreciation rights will be permitted to exercise such options and stock appreciation rights (to the extent exercisable) within a specified period of time prior to the sale event or (ii) we may make or provide for a payment, in cash or in kind, to participants holding vested and exercisable options and stock appreciation rights equal to the difference between the per share consideration payable to our stockholders in the sale event and the exercise price of the options or stock appreciation rights and we may make or provide for a payment, in cash or in kind, to participants holding other vested awards.

Our board of directors may amend or discontinue the 2024 Plan and our compensation committee may amend or cancel outstanding awards for purposes of satisfying changes in law or any other lawful purpose, but no such action may adversely affect rights under an award without the holder's consent. Certain amendments to the 2024 Plan require the approval of our stockholders. The administrator of the 2024 Plan is specifically authorized to exercise its discretion to reduce the exercise price of outstanding stock options and stock appreciation rights or effect the repricing of such awards through cancellation and re-grants without stockholder consent. No awards may be granted under the 2024 Plan after the date that is 10 years from the effective date of the 2024 Plan. No awards under the 2024 Plan have been made prior to the date of this prospectus.

2024 Employee Stock Purchase Plan

The ESPP was adopted by our board of directors on , 2024, approved by our stockholders on , 2024, and will become effective on the date immediately preceding the date on which the registration statement of which this prospectus forms a part is declared effective by the SEC. The ESPP is intended to have two components: a component intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code (423 Component) and a component that is not intended to qualify (Non-423 Component). Except as otherwise provided, the Non-423 Component will be operated and administered in the same manner as the 423 Component, except where prohibited by law. The following summary describes the material terms of the ESPP. This summary is not a complete description of all provisions of the ESPP and is qualified in its entirety by reference to the ESPP, which will be filed as an exhibit to the registration statement to which this prospectus is a part.

The ESPP initially reserves and authorizes the issuance of up to a total of shares of our common stock to participating employees. The ESPP provides that the number of shares reserved and available for issuance will automatically increase on January 1, 2025 and each January 1 thereafter through January 1, 2034, by the least of (i) shares of our common stock, (ii) % of the outstanding number of shares of our common stock on the immediately preceding December 31, or (iii) such lesser number of shares of our common stock as determined by the administrator of the ESPP. The number of shares reserved under the ESPP is subject to adjustment in the event of a stock split, stock dividend or other change in our capitalization.

All employees who are customarily employed by us or one of our designated subsidiaries for more than hours per week and who have been employed for at least days are eligible to participate in the ESPP. However, any employee who owns 5% or more of the total combined voting power or value of all classes of our stock will not be eligible to purchase shares of our common stock under the ESPP.

We may make one or more offerings each year to our employees to purchase shares under the ESPP. Offerings will usually begin on each and and will continue for six-month periods, referred to as offering periods. Each eligible employee may elect to participate in any offering by submitting an enrollment form at least 15 business days before the applicable offering date.

Each employee who is a participant in the ESPP may purchase shares of our common stock by authorizing payroll deductions of up to % of his or her eligible compensation during an offering period. Unless the participating employee has previously withdrawn from the offering, his or her accumulated payroll deductions will be used to purchase shares of our common stock on the last business day of the offering period at a price equal to 85% of the closing price of the shares of our common stock on the first business day or the last business day of the offering period (or, if no closing price is reported on that date, the closing price on the immediately preceding date on which a closing price was reported), whichever is lower, provided that no more than a number of shares of common stock determined by dividing $25,000 by the fair market value of our common stock on the offering date of such offering (or such other lesser maximum number of shares as may be established by the administrator) may be purchased by any one employee during any offering period. Under applicable tax rules, an employee may purchase no more than $25,000 worth of shares of our common stock, valued at the start of the offering period, under the ESPP for each calendar year during which any option granted to the employee is outstanding at any time.

The accumulated payroll deductions of any employee who is not a participant on the last day of an offering period will be refunded. An employee's rights under the ESPP terminate upon voluntary withdrawal from the plan or when the employee ceases employment with us for any reason.

The ESPP may be terminated or amended by our board of directors at any time. An amendment that increases the number of shares of our common stock authorized under the ESPP and certain other amendments require the approval of our stockholders.

DIRECTOR COMPENSATION

The following table presents the compensation awarded to, earned by, or paid to each person who served as a non-employee member of our board of directors during the fiscal year ended December 31, 2023 for their service on our board of directors during the fiscal year ended December 31, 2023. Other than as set forth in the table and described more fully below, we did not pay any compensation, make any equity awards or non-equity awards to, or pay any other compensation to any of the non-employee members of our board of directors in 2023. Non-employee directors affiliated with Samsara, RA Capital Management, and Third Rock Ventures, including Mr. Bassan and Drs. Simson and Tong, did not receive cash or equity compensation from us for their service as non-employee directors. The compensation for the fiscal year ended December 31, 2023 received by Dr. Finer, as an NEO of the Company, is presented in the "*2023 Summary Compensation Table*" above. Dr. Ezekowitz, who is affiliated with Third Rock Ventures, is an executive officer of the Company, but is not an NEO. Dr. Ezekowitz has been omitted from the table below since he does not receive any compensation for his services as a member of our board of directors. See the section titled "Certain Relationships and Related Person Transactions" included elsewhere in this prospectus for more information regarding Dr. Ezekowitz's compensation for the fiscal year ended December 31, 2023.

2023 Director Compensation Table

Name[1]	Fees Earned or Paid in Cash($)	Stock Awards ($)	Option Awards ($)[2]	All Other Compensation ($)	Total ($)
Abraham Bassan, M.S.	—	—	—	—	—
Bernard Coulie, M.D., Ph.D., M.B.A.[3]	—	—	100,423	—	100,423
Jake Simson, Ph.D.	—	—	—	—	—
Jeffrey Tong, Ph.D.	—	—	—	—	—

(1) As of December 31, 2023, Dr. Coulie was the only director holding outstanding equity awards and held options to purchase an aggregate of 250,000 shares of our common stock.

(2) The amounts reported represent the aggregate grant date fair value of the stock options awarded to our directors during the fiscal year ended December 31, 2023, calculated in accordance with FASB ASC Topic 718, disregarding estimated forfeitures related to service-based vesting. For a description of the assumptions used in determining these values, see Note 10—"*Stock-Based Compensation*" to our financial statements included elsewhere in this prospectus. The amount reported in this column reflects the accounting cost for the option and does not correspond to the actual economic value that may be received by our directors upon the exercise of the stock options or any sale of the underlying shares.

(3) Dr. Coulie joined our board of directors on December 7, 2023.

Director Engagement Letters

Ms. Shalini Sharp joined our board of directors on January 18, 2024. We have entered into director engagement letters with Dr. Coulie and Ms. Sharp. Pursuant to these engagement letters, each such director received an initial stock option grant for the purchase of 250,000 shares of our common stock that vests in 16 equal quarterly installments over four years, subject to continued service through each applicable vesting date. The stock options are subject to full accelerated vesting upon a "sale event" (as defined in the 2021 Plan). In addition, pursuant to their respective director engagement letter, Dr. Coulie and Ms. Sharp are each entitled to receive an annual cash retainer of $30,000, payable quarterly. Dr. Coulie's first payment occurred in January 2024. Each such director is eligible to receive reimbursement for their reasonable expenses incurred in attending board of directors' meetings in accordance with our generally applicable reimbursement policies.

Non-Employee Director Compensation Policy

In connection with this offering, our board of directors intends to adopt a non-employee director compensation policy, to be effective as of the date on which the registration statement of which this prospectus

forms a part is declared effective by the SEC. The policy will be designed to enable us to attract and retain, on a long-term basis, highly qualified non-employee directors. Under the policy, our non-employee directors will be eligible to receive cash retainers (which will be payable quarterly in arrears and prorated for partial years of service) and equity awards as set forth below:

Annual Retainer for Board Membership:	
Members	$
Additional retainer for non-executive chair	$
Additional Annual Retainer for Committee Membership:	
Audit Committee:	
Members (other than chair)	$
Chair	$
Compensation Committee:	
Members (other than chair)	$
Chair	$
Nominating and Corporate Governance Committee:	
Members (other than chair)	$
Chair	$

In addition, the non-employee director compensation policy will provide that, upon initial election or appointment to our board of directors, each non-employee director will be granted an equity award consisting of a stock option grant with a value of $ (Director Initial Grant). The Director Initial Grant will vest in equal monthly installments over three years following the grant date, subject to continued service through the applicable vesting date. Furthermore, on the date of each annual meeting of stockholders following the completion of this offering, each non-employee director who continues as a non-employee director following such meeting will be granted an annual equity award with a value of $ (Director Annual Grant). The Director Annual Grant will vest in full upon the earlier of (i) the first anniversary of the date of grant or (ii) the date of the next annual meeting of our stockholders, subject to continued service through the applicable vesting date. If a non-employee director joins our board of directors on a date other than the date of the annual meeting of our stockholders, then in lieu of the Director Annual Grant, such non-employee director will be granted a prorated portion of the Director Annual Grant corresponding to such partial year of service at the next annual meeting of stockholders. The Director Initial Grant and the Director Annual Grant are subject to full accelerated vesting upon the sale of the Company.

The aggregate amount of compensation, including both equity compensation and cash compensation, paid to any non-employee director for service as a non-employee director in a calendar year period will not exceed $ in the first calendar year such individual becomes a non-employee director and $ in any other calendar year.

We will reimburse all reasonable out-of-pocket expenses incurred by directors for their attendance at meetings of our board of directors or any committee thereof.

Employee directors will receive no additional compensation for their service as a director.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following is a description of transactions or series of transactions since January 1, 2022, to which we were or will be a party, in which:

- the amounts involved exceeded or will exceed the lesser of $120,000 or 1% of the average of our total assets at year-end for the last two completed fiscal years; and
- any of our directors, executive officers or holders of more than 5% or more of our outstanding capital stock, or any immediate family member of, or person sharing the household with, any of these individuals or entities or affiliated entities, had or will have a direct or indirect material interest.

Compensation arrangements for our named executive officers and our directors are described in the sections titled "Director Compensation" and "Executive Compensation."

Private Placement of Securities

Series A Convertible Preferred Stock Financing

In 2021 and 2022, we issued and sold an aggregate of 75,000,000 shares of our Series A convertible preferred stock in two closings, at a purchase price of $1.00 per share, for an aggregate purchase price of $75.0 million. Included in this amount was $14.7 million of the then outstanding principal and interest on convertible promissory notes issued to Third Rock Ventures V, L.P. in 2020 and 2021, all of which converted into Series A convertible preferred stock in this financing in accordance with their terms.

Each share of our Series A convertible preferred stock will automatically convert into one share of our common stock immediately prior to the completion of this offering. The following table summarizes purchases of our Series A convertible preferred stock as described above by related parties:

Stockholder[1]	Series A Convertible Preferred Stock	Total Purchase Price
Third Rock Ventures V, L.P.[2]	41,250,000	$41,250,000[3]
Samsara BioCapital, L.P.[4]	10,500,000	$10,500,000
Entities affiliated with Biotechnology Value Fund[5]	7,500,000	$ 7,500,000
Invus Public Equities, L.P.	7,500,000	$ 7,500,000

(1) Additional details regarding these stockholders and their equity holdings are included in the section titled "Principal Stockholders."

(2) Entities affiliated with Third Rock Ventures beneficially own more than 5% of our outstanding capital stock. Dr. Tong and Dr. Ezekowitz, members of our board of directors, were designated to our board of directors by Third Rock Ventures and serve as Partner and Advisory Partner at Third Rock Ventures, respectively.

(3) $26,593,667 of the total purchase price was funded in cash and $14,656,333 was funded by the conversion of Third Rock Ventures V, L.P.'s convertible promissory notes (inclusive of principal and accrued interest).

(4) Samsara beneficially owns more than 5% of our outstanding capital stock. Mr. Bassan, a member of our board of directors, was designated to our board of directors by Samsara and is a Principal at Samsara.

(5) Represents (i) 2,968,200 shares of our Series A convertible preferred stock purchased by Biotechnology Value Fund II, L.P. (BVF II), (ii) 4,077,015 shares of our Series A convertible preferred stock purchased by Biotechnology Value Fund, L.P. (BVF) and (iii) 454,785 shares of our Series A convertible preferred stock purchased by Biotechnology Value Trading Fund OS LP (BVF Trading Fund OS and, together with BVF II and BVF, Biotechnology Value Fund). Entities affiliated with Biotechnology Value Fund collectively beneficially own more than 5% of our outstanding capital stock.

Series B Convertible Preferred Stock Financing

In 2023 and 2024, we issued and sold an aggregate of 121,657,452 shares of our Series B convertible preferred stock at a purchase price of $1.23297 per share for an aggregate purchase price of $150.0 million in multiple closings.

Each outstanding share of our Series B convertible preferred stock will convert into one share of our common stock immediately prior to the completion of this offering. The following table summarizes the shares of our Series B convertible preferred stock issued to our related parties:

Stockholder[1]	Series B Convertible Preferred Stock	Total Purchase Price
Third Rock Ventures VI, L.P.[2]	24,737,017	$ 30,499,999.86
Entities affiliated with RA Capital[3]	24,331,492	$ 29,999,999.72
Deep Track Biotechnology Master Fund, Ltd.	12,165,746	$ 14,999,999.86
Entities affiliated with Goldman[4]	12,165,746	$ 14,999,999.93
Samsara BioCapital, L.P.[5]	8,516,022	$ 10,499,999.66
Invus Public Equities, L.P.	6,082,873	$ 7,499,999.93
Entities affiliated with Biotechnology Value Fund[6]	4,055,248	$ 4,999,999.14

(1) Additional details regarding these stockholders and their equity holdings are included in the section titled "Principal Stockholders."

(2) Entities affiliated with Third Rock Ventures beneficially own more than 5% of our outstanding capital stock. Dr. Tong and Dr. Ezekowitz, members of our board of directors, were designated to our board of directors by Third Rock Ventures and serve as Partner and Advisory Partner at Third Rock Ventures, respectively.

(3) Represents (i) 14,598,896 shares of our Series B convertible preferred stock purchased by RA Capital Healthcare Fund, L.P. (RA Capital Healthcare) and (ii) 9,732,596 shares of our Series B convertible preferred stock purchased by RA Capital Nexus Fund III, L.P. (RA Capital Nexus and, together with RA Capital Healthcare, RA Capital). Dr. Simson, a member of our board of directors, was designated to our board of directors by RA Capital and is a Partner at RA Capital. Entities affiliated with RA Capital collectively beneficially own more than 5% of our outstanding capital stock.

(4) Represents (i) 2,846,638 shares of our Series B convertible preferred stock purchased by Special Situations 2022, L.P., (ii) 2,233,760 shares of our Series B convertible preferred stock purchased by West Street Life Sciences I, LP, (iii) 1,587,908 shares of our Series B convertible preferred stock purchased by WSLS Emp Onshore Investments, L.P., (iv) 1,560,292 shares of our Series B convertible preferred stock purchased by Broad Street Principal Investments LLC, (v) 598,990 shares of our Series B convertible preferred stock purchased by WSLS Emp Offshore Investments, L.P., (vi) 2,129,548 shares of our Series B convertible preferred stock purchased by WSLS Offshore Investments, SLP, and (vii) 1,208,610 shares of our Series B convertible preferred stock purchased by Special Situations 2022 Offshore Holdings II, L.P. (collectively, Goldman). Entities affiliated with Goldman collectively beneficially own more than 5% of our outstanding capital stock.

(5) Samsara beneficially owns more than 5% of our outstanding capital stock. Mr. Bassan, a member of our board of directors, was designated to our board of directors by Samsara and is a Principal at Samsara.

(6) Represents (i) 1,665,002 shares of our Series B convertible preferred stock purchased by BVF II, (ii) 2,196,680 shares of our Series B convertible preferred stock purchased by BVF and (iii) 193,566 shares of our Series B convertible preferred stock purchased by BVF Trading Fund OS. Entities affiliated with Biotechnology Value Fund collectively beneficially own more than 5% of our outstanding capital stock.

Agreements with Stockholders

Financing Agreements with Stockholders

In connection with our Series A and B convertible preferred stock financings, we entered into an investors' rights agreement and stockholders agreement containing registration rights, information rights, voting rights, and rights of first refusal, among other things, with certain holders of our convertible preferred stock and certain holders of our common stock, including holders of more than 5% of our capital stock and entities with which certain of our directors and officers are affiliated. Pursuant to our amended and restated investors' rights agreement (as amended, the investor rights agreement), entities affiliated with Biotechnology Value Fund and RA Capital were each granted the right to designate a board observer in a nonvoting capacity, which right will terminate upon the completion of this offering. These agreements will terminate upon the completion of this offering, except for the registration rights granted under the investor rights agreement, as more fully described in "Description of Capital Stock—Registration Rights."

Management Rights Letters

In connection with our Series A and B convertible preferred stock financings, we entered into management rights letters with certain purchasers of our convertible preferred stock, including holders of more than 5% of our capital stock and entities with which certain of our directors or officers are affiliated, pursuant to which such entities were granted certain management rights, including the right to consult with and advise our management on significant business issues, review our operating plans, examine our books and records and inspect our facilities. These management rights letters will terminate upon completion of this offering.

Side Letter with Goldman

In connection with our Series B convertible preferred stock financing, we entered into a side letter agreement (Goldman side letter) with entities affiliated with Goldman Sachs & Co. LLC (Goldman), which collectively hold more than 5% of our outstanding capital stock. Pursuant to the Goldman side letter, Goldman was granted the right to designate a board observer in a nonvoting capacity, which right will terminate upon the completion of this offering. Certain of our obligations under the Goldman side letter will remain in effect after the completion of this offering, including our obligations to defend, indemnify and hold Goldman harmless for any damages, liabilities, losses, taxes, fines, penalties and reasonable costs and expenses arising out of third-party or governmental claims related to Goldman's status as a securityholder, subject to certain limitations and exceptions.

Service Agreement with Third Rock Ventures

Third Rock Ventures, a beneficial owner of more than 5% of our outstanding capital stock, has provided us with certain consulting services, including without limitation, business, technical, financial, IT, and scientific advice related to our business pursuant to a service agreement with Third Rock Ventures, dated August 25, 2021 (TRV service agreement). Dr. Finer, our President, Chief Executive Officer and a member of our directors, is a Venture Partner at Third Rock Ventures. In addition, Dr. Tong, a member of our board of directors, and Dr. Ezekowitz, a member of our board of directors and our interim Chief Medical Officer, were designated to our board of directors by Third Rock Ventures and are each affiliated with Third Rock Ventures. Dr. Ezekowitz did not receive any cash compensation from us for his service as our interim Chief Medical Officer, as his services were provided to us through the TRV service agreement. For the fiscal years ended December 31, 2022 and 2023, we incurred costs totaling $1.3 million and $0.3 million, respectively, for the services provided to us by Third Rock Ventures, which included, among other things, the services of Dr. Ezekowitz in his capacity as our interim Chief Medical Officer. Drs. Tong and Ezekowitz did not receive any cash compensation from us for their services as members of our board of directors. Of the total fees we incurred under the TRV service agreement in the fiscal years ended December 31, 2022 and 2023, $253,500 and $239,000, respectively, were attributed to Dr. Ezekowitz's support in his capacity as our interim Chief Medical Officer. Additionally, as compensation for

Dr. Ezekowitz's services as our interim Chief Medical Officer, we granted him options to purchase 100,000 shares of our common stock during the year ended December 31, 2022, and 230,000 shares of our common stock during the year ended December 31, 2023, at exercise prices of $0.18 and $0.32 per share, respectively.

Employment Arrangements

We have entered into offer letter agreements with certain of our executive officers and granted stock options to our executive officers, as more fully described in the section titled "Executive Compensation."

Equity Grants

We have granted stock options and restricted stock awards to purchase shares of our common stock to certain of our executive officers and directors. For more information regarding the stock options granted to our executive officers and directors, see the sections titled "Executive Compensation" and "Director Compensation" included elsewhere in this prospectus.

Indemnification Agreements

In connection with this offering, we intend to enter into new agreements to indemnify our directors and executive officers. These agreements will, among other things, require us to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our company or that person's status as a member of our board of directors to the maximum extent allowed under Delaware law.

Policies for Approval of Related Party Transactions

Our board of directors reviews and approves transactions with directors, executive officers, and holders of 5% or more of our voting securities and their affiliates, each a related party. Prior to this offering, the material facts as to the related party's relationship or interest in the transaction were disclosed to our board of directors prior to their consideration of such transaction, and the transaction was not considered approved by our board of directors unless a majority of the directors who are not interested in the transaction approved the transaction. Further, when stockholders are entitled to vote on a transaction with a related party, the material facts of the related party's relationship or interest in the transaction were disclosed to the stockholders, who must approve the transaction in good faith.

In connection with this offering, we expect to adopt a written related party transactions policy that will provide that such transactions must be approved by our audit committee. This policy will become effective upon effectiveness of our registration statement. Pursuant to this policy, the audit committee has the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related parties in which the aggregate amount involved exceeds or may be expected to exceed $120,000 (or, if less, 1% of the average of our total assets in a fiscal year) and in which a related party has or will have a direct or indirect material interest. For purposes of this policy, a related party will be defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and their immediate family members.

PRINCIPAL STOCKHOLDERS

The following table sets forth, as of , 2024, information regarding 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 common stock;
- each of our directors;
- each of our named executive officers; and
- all of our current directors and executive officers as a group.

The information in the following table is calculated based on shares (including shares of unvested restricted common stock subject to repurchase or forfeiture) of our common stock deemed to be outstanding before this offering and shares of our common stock outstanding after this offering, assuming no exercise by the underwriters of their option to purchase additional shares of our common stock. The number of shares outstanding is based on the number of shares of our common stock outstanding (including shares of unvested restricted common stock subject to repurchase or forfeiture) as of , 2024, as adjusted to give effect to:

- the automatic conversion of all outstanding shares of our convertible preferred stock into an aggregate of shares of our common stock immediately prior to the completion of this offering; and
- the sale of shares of our common stock in this offering (assuming no exercise of the underwriters' option to purchase additional shares).

Each individual or entity shown on the table has furnished information with respect to beneficial ownership. Except as otherwise indicated below, the address of each officer, director and 5% stockholder listed below is c/o Septerna, Inc., 250 East Grand Avenue, South San Francisco, California 94080.

We have determined beneficial ownership in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities as well as any shares of our common stock that the person has the right to acquire within 60 days of , 2024 through the exercise of stock options or other rights. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them.

	Shares of Common Stock Beneficially Owned	Percentage of Shares Beneficially Owned	
		Before Offering	After Offering
5% or Greater Stockholders			
Entities affiliated with Third Rock Ventures			
Entities affiliated with RA Capital			
Samsara BioCapital, L.P.			
Invus Public Equities, L.P.			
Deep Track Biotechnology Master Fund, Ltd.			
Entities affiliated with Goldman			
Entities affiliated with Biotechnology Value Fund			
Directors, Named Executive Officers and Other Executive Officers			
Jeffrey Finer, M.D., Ph.D.			
Liz Bhatt, M.S., M.B.A.			
Samira Shaikhly			
Daniel Long, D.Phil.			
Uwe Klein, Ph.D.			
Jeffrey Tong, Ph.D.			
Abraham Bassan, M.S.			
Bernard Coulie, M.D., Ph.D., M.B.A.			
Alan Ezekowitz, M.D., D. Phil			
Shalini Sharp, M.B.A.			
Jake Simson, Ph.D.			
All executive officers and directors as a group (11 persons)			

* Represents beneficial ownership of less than 1%.

DESCRIPTION OF CAPITAL STOCK

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, which will become effective immediately prior to the completion of this offering, and the amended and restated bylaws, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part. Copies of these documents have been filed with the SEC as exhibits to our registration statement, of which this prospectus forms a part. The descriptions of the common stock and preferred stock reflect changes to our capital structure that will be in effect on the completion of this offering.

General

Upon filing of our amended and restated certificate of incorporation and the completion of this offering, our authorized capital stock will consist of shares of our common stock, par value $0.001 per share, and shares of preferred stock, par value $0.001 per share, all of which shares of preferred stock will be undesignated.

As of , 2024, there were shares of our common stock outstanding (including shares of unvested restricted common stock subject to repurchase or forfeiture) and held of record by stockholders. 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 completion of this offering.

Common Stock

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.

Preferred Stock

Immediately prior to the completion of this offering, all outstanding shares of our convertible preferred stock will be converted into shares of our common stock. Upon the completion 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 dividend payments and 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 completion of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Stock Options

As of , 2024, shares of our common stock were issuable upon the exercise of outstanding stock options under the 2021 Plan, at a weighted-average exercise price of $ per share; no shares of our common stock were issuable upon exercise of outstanding stock options outside of our 2021 Plan; and shares of our common stock were reserved for future issuance under the 2024 Plan, which will become effective once the registration statement of which this prospectus forms a part is declared effective, as well as any future automatic annual increases in the number of shares of our common stock reserved for issuance under the 2024 Plan and any shares underlying outstanding stock awards granted under the 2021 Plan that expire or are repurchased, forfeited, cancelled, or withheld. For additional information regarding terms of our equity incentive plans, see the section titled "Executive Compensation—Employee Benefit and Equity Compensation Plans."

Registration Rights

Upon the completion of this offering, certain holders of our common stock, including those issuable upon the conversion of our preferred stock, will be entitled to rights with respect to the registration of these securities under the Securities Act. These rights are provided under the terms of the investor rights agreement between us and the holders of our preferred stock. The investor rights agreement includes demand registration rights, short-form registration rights, and piggyback registration rights. All fees, costs and expenses of underwritten registrations under this agreement will be borne by us and all selling expenses, including underwriting discounts and selling commissions, will be borne by the holders of the shares being registered.

Demand Registration Rights

Beginning six months after the effective date of this registration statement, certain holders of our common stock, including common stock issuable upon the conversion of shares of our preferred stock upon the completion of this offering, are entitled to demand registration rights. Under the terms of the investor rights agreement, upon the written request of stockholders holding at least 25% of the securities eligible for registration then outstanding to file a registration statement with respect to at least 25% of the securities eligible for registration then outstanding, having an anticipated aggregate offering price, net of related fees and expenses, of at least $5.0 million, we will be required to file a registration statement within 60 days of such request covering all securities eligible for registration that our stockholders request to be included in such registration. We are not required to effect any registration pursuant to this provision of the investor rights agreement (a) during the period that is estimated to be 60 days before and 180 days after the effective date of a registration statement that we initiate, (b) if we have already effected two registrations pursuant to such requests for registration on Form S-1 or (c) if the initiating holders propose to register securities that may be immediately registered on Form S-3. The right to have such shares registered on Form S-1 is further subject to other specified conditions and limitations.

Short-Form Registration Rights

Pursuant to the investor rights agreement, if we are eligible to file a registration statement on Form S-3, upon the written request of stockholders holding at least 10% of the securities eligible for registration then outstanding to file a registration statement with respect to securities having an anticipated aggregate offering price, net of related fees and expenses, of at least $1.0 million, we will be required to file a Form S-3 registration statement within 45 days of such request covering all securities eligible for registration that our stockholders request to be included in such registration. We are not required to effect any registration pursuant to this provision of the investor rights agreement (a) during the period that is estimated to be 30 days before and 90 days after the effective date of a registration statement that we initiate or (b) if we have already effected two registrations pursuant to such requests for registration on Form S-3 within the twelve month period immediately preceding the date of such request. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Piggyback Registration Rights

Pursuant to the investor rights agreement, if we register any of our securities either for our own account or for the account of other security holders, the holders of our common stock, including common stock issuable upon the conversion of our preferred stock, are entitled to include their shares in the registration. Subject to certain exceptions contained in the investor rights agreement, we and the underwriters may limit the number of shares included in the underwritten offering to the number of shares which we and the underwriters determine in our sole discretion will not jeopardize the success of the offering.

Indemnification

The investor rights agreement contains customary cross-indemnification provisions, under which we are obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions attributable to them.

Expiration of Registration Rights

The demand registration rights and short form registration rights granted under the investor rights agreement will terminate on the earliest to occur of (a) the closing of certain liquidation events, (b) the fifth anniversary of the completion of this offering or (c) at such time after this offering when the holders' shares may be sold without restriction pursuant to Rule 144 under the Securities Act (Rule 144) or another similar exemption under the Securities Act within a three month period.

Expenses

Ordinarily, other than underwriting discounts and commissions, we are generally 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 and filing fees, printing expenses, fees and disbursements of our counsel and reasonable fees and disbursements of a counsel for the selling security holders.

Anti-Takeover Effects of Our Certificate of Incorporation and Bylaws and Delaware Law

Some provisions of Delaware law, our amended and restated certificate of incorporation and amended and restated bylaws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board Composition and Filling Vacancies

Our amended and restated certificate of incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our amended and restated certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of two-thirds or more of the shares then entitled to vote at an election of directors. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No Written Consent of Stockholders

Our amended and restated certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action

by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our amended and restated bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of Stockholders

Our amended and restated certificate of incorporation and amended and restated bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our amended and restated bylaws will limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our amended and restated bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures will provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our amended and restated bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and Bylaws

Any amendment of our amended and restated certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our amended and restated certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, and limitation of liability must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class. Our amended and restated bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the amended and restated bylaws; and may also be amended by the affirmative vote of a majority of the outstanding shares entitled to vote on the amendment, voting together as a single class, except that the amendment of the provisions relating to notice of stockholder business and nominations and special meetings must be approved by not less than two-thirds of the outstanding shares entitled to vote on the amendment, and not less than two-thirds of the outstanding shares of each class entitled to vote thereon as a class, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated Preferred Stock

Our amended and restated certificate of incorporation provides for authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our amended and restated certificate of incorporation grants our board of directors broad

power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of our common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in control of us.

Section 203 of the Delaware General Corporation Law

Upon the completion of this offering, we will be subject to the provisions of Section 203 of the DGCL. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding, for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge, or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Choice of Forum

Our amended and restated bylaws will provide that the Court of Chancery of the State of Delaware is the sole and exclusive forum for the following claims or causes of action under the Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of, or a claim based on, a breach of a fiduciary duty owed by any of our current or former directors, officers, or other employees or stockholders to us or our stockholders, (iii) any action asserting a claim arising pursuant to any

provision of the DGCL or our amended and restated certificate of incorporation or amended and restated bylaws (including the interpretation, validity or enforceability thereof) or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware, or (iv) any action asserting a claim governed by the internal affairs doctrine.

However, Section 27 of the Exchange Act creates exclusive federal jurisdiction over all claims brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. Consequently, this choice of forum provision would not apply to claims or causes of action brought to enforce a duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction or the Securities Act. Moreover, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all claims brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder.

In addition, our amended and restated bylaws will provide that, unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by law, the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause or causes of action arising under the Securities Act, including all causes of action asserted against any defendant to such complaint. For the avoidance of doubt, this provision is intended to benefit and may be enforced by us, our officers and directors, the underwriters to any offering giving rise to such complaint, and any other professional entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying the offering.

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. We note that investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder.

Additionally, our amended and restated bylaws will provide that any person or entity holding, owning or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to these provisions.

Limitations on Liability and Indemnification

See the section titled “Management—Limitations on Liability and Indemnification Agreements” included elsewhere in this prospectus.

Stock Exchange Listing

We intend to apply to list our common stock on the Nasdaq Global Market under the proposed trading symbol “SEPN,” and this offering is contingent upon obtaining approval of such listing.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock will be . The transfer agent’s address is .

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common stock. Future sales of substantial amounts of our common stock, including shares issued on the exercise of outstanding options, in the public market after this offering, or the possibility of these sales or issuances occurring, could adversely affect the prevailing market price for our common stock or impair our ability to raise equity capital. Although we intend to apply to list our common stock on the Nasdaq Global Market, we cannot assure you that there will be an active public market for our common stock.

Following the completion of this offering, based on our shares outstanding as of June 30, 2024, a total of shares of our common stock will be outstanding, assuming no exercise of the underwriters' option to purchase additional shares and no exercise of outstanding options. Of the outstanding shares, all of the shares sold in this offering will be freely tradable, except that any shares held by our affiliates, as that term is defined in Rule 144 under the Securities Act, may only be sold in compliance with the limitations described below.

Rule 144

In general, under Rule 144 as currently in effect, once we have been subject to public company reporting requirements of Section 13 or Section 15(d) of the Exchange Act for at least 90 days, an eligible stockholder is entitled to sell such shares without complying with the manner of sale, volume limitation, or notice provisions of Rule 144, subject to compliance with the public information requirements of Rule 144. To be an eligible stockholder under Rule 144, such stockholder must not be deemed to have been one of our affiliates for purposes of the Securities Act at any time during the 90 days preceding a sale and must have beneficially owned the shares proposed to be sold for at least six months, including the holding period of any prior owner other than our affiliates. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then such person is entitled to sell such shares without complying with any of the requirements of Rule 144, subject to the expiration of the lock-up agreements described below.

In general, under Rule 144, as currently in effect, our affiliates or persons selling shares on behalf of our affiliates are entitled to sell shares on expiration of the lock-up agreements described below. Beginning 90 days after the date of this prospectus, within any three-month period, such stockholders may sell a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after this offering, assuming no exercise of the underwriters' option to purchase additional shares of our common stock from us; or
- the average weekly trading volume of 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.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

Rule 701 under the Securities Act (Rule 701) generally allows a stockholder who was issued shares under a written compensatory plan or contract and who is not deemed to have been an affiliate of our company during the immediately preceding 90 days, to sell these shares in reliance on Rule 144, but without being required to comply with the public information, holding period, volume limitation, or notice provisions of Rule 144. Rule 701 also permits affiliates of our Company to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required by that rule to wait until 90 days after the date of this prospectus before selling those shares under Rule 701, subject to the expiration of the lock-up agreements described below.

Lock-up Agreements

We, all of our directors and executive officers, and the holders of substantially all of our securities have entered into lock-up agreements with the underwriters and/or are subject to market standoff agreements or other agreements with us, which prevents us and them, subject among other things and subject to certain exceptions, from selling any of our securities for a period of not less than 180 days from the date of this prospectus without the prior written consent of J.P. Morgan Securities LLC. See the section titled "Underwriting."

Registration Rights

Upon the completion of this offering, certain holders of our securities will be entitled to various rights with respect to registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming fully tradable without restriction under the Securities Act immediately upon the effectiveness of the registration. See the section titled "Description of Capital Stock—Registration Rights."

Equity Incentive Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register our shares issued or reserved for issuance under our equity incentive plans. The first such registration statement is expected to be filed soon after the date of this prospectus and will automatically become effective upon filing with the SEC. Accordingly, shares registered under such registration statement will be available for sale in the open market, unless such shares are subject to vesting restrictions with us or the lock-up restrictions described above. As of the date of this prospectus, we estimate that such registration statement on Form S-8 will cover approximately shares.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK

The following discussion is a summary of material U.S. federal income tax consequences to non-U.S. holders (as defined below) of the purchase, ownership and disposition of our common stock issued pursuant to this offering. This discussion is based on the Code, Treasury Regulations promulgated thereunder, published rulings and administrative pronouncements of the U.S. Internal Revenue Service (IRS) and judicial decisions, all as in effect on the date hereof. These authorities are subject to differing interpretations and may change, possibly retroactively, resulting in U.S. federal income tax consequences different from those discussed below. We have not requested, and do not intend to request, a ruling from the IRS with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions.

This discussion is limited to non-U.S. holders who purchase our common stock pursuant to this offering and who hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion is not a complete analysis of all potential U.S. federal income tax consequences relating thereto, does not address the potential application of the Medicare contribution tax on net investment income, the alternative minimum tax, or the special tax accounting rules under Section 451(b) of the Code, and also does not address any U.S. federal non-income tax consequences, such as estate or gift tax consequences, or any tax consequences arising under any state, local or non-U.S. tax laws. This discussion does not address all of the U.S. federal income tax consequences that may be relevant to a non-U.S. holder in light of such non-U.S. holder's particular circumstances. This discussion also does not consider any specific facts or circumstances that may be relevant to non-U.S. holders subject to special rules under the U.S. federal income tax laws, including:

- certain former citizens, or long-term residents of the United States;
- partnerships, S corporations, or other entities or arrangements treated as partnerships, pass-through entities, or disregarded entities (including hybrid entities) for U.S. federal income tax purposes (and investors therein);
- "controlled foreign corporations" within the meaning of Section 957(a) of the Code;
- "passive foreign investment companies" within the meaning of Section 1297(a) of the Code;
- corporations that accumulate earnings to avoid U.S. federal income tax;
- banks, financial institutions, investment companies, insurance companies, brokers, dealers or traders in securities;
- real estate investment trusts or regulated investment companies;
- persons that have elected to mark securities to market;
- tax-exempt organizations (including private foundations), and governmental organizations, or international organizations;
- tax-qualified retirement plans;
- persons who acquire our common stock through the exercise of employee stock options or otherwise as compensation;
- persons who acquire our common stock through the exercise of warrants or conversion rights under convertible instruments;
- persons that hold our common stock as "qualified small business stock" under Section 1202 of the Code or "Section 1244 stock" under Section 1244 of the Code;
- 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;

- persons that elect to apply Section 1400Z-2 of the Code to gains recognized with respect to shares of our common stock;
- persons that acquired our common stock in a transaction subject to the gain rollover provisions of the Code (including Section 1045 of the Code);
- persons that own, or have owned, actually or constructively, more than 5% of our common stock;
- persons who have elected to mark securities to market; and
- persons holding our common stock as part of a hedging or conversion transaction or straddle, or synthetic security or a constructive sale, or other risk reduction strategy or integrated investment.

If an entity or arrangement that is classified as a partnership for U.S. federal income tax purposes holds our common stock, the U.S. federal income tax treatment of a partner in the partnership generally will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Partnerships holding our common stock and the partners in such partnerships are urged to consult their tax advisors about the particular U.S. federal income tax consequences to them of owning and disposing of our common stock.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TAX ADVICE. PROSPECTIVE INVESTORS SHOULD CONSULT THEIR TAX ADVISORS REGARDING THE PARTICULAR U.S. FEDERAL INCOME TAX CONSEQUENCES TO THEM OF ACQUIRING, OWNING AND DISPOSING OF OUR COMMON STOCK, AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL OR NON-U.S. TAX LAWS AND ANY OTHER U.S. FEDERAL TAX LAWS OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of Non-U.S. Holder

For purposes of this discussion, a non-U.S. holder is any beneficial owner of our common stock that is for U.S. federal income tax purposes:

- a non-resident alien individual;
- a corporation or any organization taxable as a corporation for U.S. federal income taxes that is not created or organized under the laws of the United States, any state thereof, or the District of Columbia; or
- a foreign trust or estate, the income of which is not subject to U.S. federal income tax on a net income basis.

Distributions on Our Common Stock

As described under “Dividend Policy,” we do not currently anticipate declaring or paying, for the foreseeable future, any distributions on our capital stock. However, if we were to distribute cash or other 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 will first be applied against and reduce a holder’s tax basis in our common stock, but not below zero. Any excess will be treated as gain realized on the sale or other disposition of our common stock and will be treated as described under “—Gain on sale or other taxable disposition of our common stock” below.

Subject to the discussions below regarding effectively connected income, backup withholding and FATCA (as defined below), dividends paid to a non-U.S. holder of our common stock generally 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. To receive the benefit of a reduced treaty rate, a non-U.S. holder must furnish us or our withholding agent with a valid IRS Form W-8BEN (in the case of individuals) or IRS Form W-8BEN-E (in the case of entities), or other appropriate form, certifying such holder's qualification for the reduced rate. This certification must be provided to us or our withholding agent before the payment of the dividends and must be updated periodically. If the non-U.S. holder holds our common stock through a financial institution or other agent acting on the non-U.S. holder's behalf, the non-U.S. holder will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our withholding agent, either directly or through other intermediaries.

If a non-U.S. holder holds our common stock in connection with the conduct of a trade or business in the United States, and dividends paid on our common stock are effectively connected with such holder's U.S. trade or business (and, if required by an applicable tax treaty, are attributable to such holder's permanent establishment or fixed base in the United States), the non-U.S. holder generally will be exempt from U.S. federal withholding tax. To claim the exemption, the non-U.S. holder generally must furnish a valid IRS Form W-8ECI (or applicable successor form), certifying that the dividends are effectively connected with the non-U.S. Holder's conduct of a trade or business within the United States to the applicable withholding agent.

However, any such effectively connected dividends paid on our common stock generally will be subject to U.S. federal income tax on a net income basis at the regular U.S. federal income tax rates in the same manner as if such holder were a resident of the United States. A non-U.S. holder that is a foreign corporation also may be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year, as adjusted for certain items.

Non-U.S. holders that do not provide the required certification on a timely basis, but that qualify for a reduced treaty rate, may obtain a refund or credit of any excess amounts withheld by timely filing an appropriate claim with the IRS. Non-U.S. holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

Gain on Disposition of Our Common Stock

Subject to the discussions below regarding backup withholding and FATCA (as defined below), a non-U.S. holder generally will not be subject to U.S. federal income tax on any gain realized on 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 in the United States and, if required by an applicable income tax treaty, is attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States;
- the non-U.S. holder is a nonresident alien individual who is 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 "United States real property interest" by reason of our status as a United States real property holding corporation (USRPHC) for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding the disposition or the non-U.S. holder's holding period for our common stock, and our common stock is not "regularly traded" on an established securities market within the meaning of applicable U.S. Treasury regulations.

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 regular U.S. federal income tax rates in the same manner as if such holder were a resident of the United States. A non-U.S. holder that is a foreign corporation also may be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a flat 30% rate (or such lower rate specified by an applicable income tax treaty), but may be offset by certain 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 that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses.

Determining whether we are a USRPHC depends on the fair market value of our U.S. real property interests relative to the fair market value of our worldwide real property interests and our other trade or business assets. We believe that we are not currently and we do not anticipate becoming a USRPHC for U.S. federal income tax purposes, although there can be no assurance we will not in the future become a USRPHC. Even if we are treated as a USRPHC, gain realized by a non-U.S. holder on a disposition of our common stock will not be subject to U.S. federal income tax so long as (1) the non-U.S. holder owned, directly, indirectly and constructively, no more than 5% of our common stock at all times within the shorter of (a) the five-year period preceding the disposition or (b) the holder's holding period and (2) our common stock is "regularly traded" on an established securities market within the meaning of applicable U.S. Treasury regulations. There can be no assurance that our common stock qualifies as regularly traded on an established securities market for purposes of the rules described above. Prospective investors are encouraged to consult their own tax advisors regarding the possible consequences to them if we are, or were to become, a USRPHC.

Non-U.S. holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Annual reports are required to be filed with the IRS and provided to each non-U.S. holder indicating the amount of distributions on our common stock paid to such holder and the amount of any tax withheld with respect to those distributions. These information reporting requirements apply even if no withholding was required (because the distributions were effectively connected with the holder's conduct of a U.S. trade or business, or withholding was reduced or eliminated by an applicable income tax treaty) and regardless of whether such distributions constitute dividends. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the non-U.S. holder resides or is established. Backup withholding, currently at a 24% rate, generally will not apply to payments to a non-U.S. holder of distributions on or the gross proceeds of a disposition of our common stock provided the non-U.S. holder furnishes the required certification for its non-U.S. status, such as by providing a valid IRS Form W-8BEN, IRS Form W-8BEN-E or IRS Form W-8ECI, or otherwise establishes an exemption, and if the payor does not have actual knowledge, or reason to know, that the holder is a U.S. person who is not an exempt recipient.

Backup withholding is not an additional tax. If any amount is withheld under the backup withholding rules, the non-U.S. holder should consult with a U.S. tax advisor regarding the possibility of and procedure for obtaining a refund or a credit against the non-U.S. holder's U.S. federal income tax liability, if any.

Withholding on Foreign Entities

Sections 1471 through 1474 of the Code, which are commonly referred to as FATCA, impose a U.S. federal withholding tax of 30% on certain payments made to a "foreign financial institution" (as specially defined under these rules) unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding certain U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners) or an exemption applies. FATCA also generally imposes a U.S. federal withholding tax of 30% on certain payments made to a "non-financial foreign entity" (as specially defined under these rules) unless such entity provides the withholding agent a certification that it does not have any "substantial United States owners" or provides information identifying certain direct and

indirect U.S. owners of the entity or an exemption applies. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. Under certain circumstances, a non-U.S. holder might be eligible for refunds or credits of such taxes. FATCA currently applies to dividends paid on our common stock and would have applied also to payments of gross proceeds from the sale or other disposition of our common stock. However, proposed regulations under FATCA provide for the elimination of the federal withholding tax of 30% applicable to gross proceeds of a sale or other disposition of from property of a type that can produce U.S. source dividends or interest. Under these proposed Treasury Regulations (which may be relied upon by taxpayers prior to finalization), FATCA withholding does not apply to gross proceeds from sales or other dispositions of our common stock.

Prospective investors are encouraged to consult with their tax advisors regarding the possible implications of FATCA on their investment in our common stock.

EACH PROSPECTIVE INVESTOR SHOULD CONSULT ITS TAX ADVISOR REGARDING THE TAX CONSEQUENCES OF OWNING AND DISPOSING OF OUR COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY RECENT AND PROPOSED CHANGE IN APPLICABLE LAW, AS WELL AS TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL, NON-U.S. OR U.S. FEDERAL NON-INCOME TAX LAWS.

UNDERWRITING

We are offering the shares of our common stock described in this prospectus through a number of underwriters. J.P. Morgan Securities LLC, TD Securities (USA) LLC, Cantor Fitzgerald & Co. and Wells Fargo Securities, LLC are acting as joint book-running managers of the offering and as representatives of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus, the number of shares of our common stock listed next to its name in the following table:

Name	Number of Shares
J.P. Morgan Securities LLC	
TD Securities (USA) LLC	
Cantor Fitzgerald & Co.	
Wells Fargo Securities, LLC	
Total	

The underwriters are committed to purchase all the shares of our common stock offered by us if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the common stock directly to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of $ per share. After the initial offering of the shares to the public, if all of the shares of our common stock are not sold at the initial public offering price, the underwriters may change the offering price and the other selling terms. Sales of any shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to additional shares of our common stock from us to cover sales of shares by the underwriters which exceed the number of shares specified in the table above. The underwriters have 30 days from the date of this prospectus to exercise this option to purchase additional shares. If any shares are purchased with this option to purchase additional shares, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of our common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting fee is $ per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Without Option to Purchase Additional Shares Exercise	With Full Option to Purchase Additional Shares Exercise
Per Share	$	$
Total	$	$

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately $. We have agreed to reimburse the underwriters for expenses relating to the clearance of this offering with the Financial Industry Regulatory Authority, Inc. in an amount up to $.

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed that we will not, subject to certain exceptions, (i) 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, hedge, lend, or otherwise transfer or dispose of, directly or indirectly, or submit to, or file with, the SEC a registration statement under the Securities Act relating to, any shares of our common stock or any securities convertible into or exercisable or exchangeable for any shares of our common stock, or (ii) enter into any swap, hedging, or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of any shares of common stock or any such other securities, or publicly disclose the intention to undertake any of the foregoing (regardless of whether any of these transactions are to be settled by the delivery of shares of common stock or such other securities, in cash or otherwise), in each case without the prior written consent of J.P. Morgan Securities LLC for a period of 180 days after the date of this prospectus, other than the shares of our common stock to be sold in this offering.

The restrictions on our actions, as described above, do not apply to certain transactions, including (i) the issuance of shares of our common stock or securities convertible into or exercisable for shares of our common stock pursuant to the conversion or exchange of convertible or exchangeable securities or the exercise of warrants or options (including net exercise) or the settlement of restricted stock units (RSUs) (including net settlement), in each case outstanding on the date of the underwriting agreement and described in this prospectus; (ii) grants of stock options, stock awards, restricted stock, RSUs, or other equity awards and the issuance of shares of our common stock or securities convertible into or exercisable or exchangeable for shares of our common stock (whether upon the exercise of stock options or otherwise) to our employees, officers, directors, advisors, or consultants pursuant to the terms of an equity compensation plan in effect as of the closing date of this offering and described in this prospectus, provided that such recipients enter into a lock-up agreement with the underwriters; (iii) the issuance of up to 5% of the outstanding shares of our common stock, or securities convertible into, exercisable for, or which are otherwise exchangeable for, common stock, immediately following the closing date of this offering, in acquisitions or other similar strategic transactions, provided that such recipients enter into a lock-up agreement with the underwriters; or (iv) the filing of any registration statement on Form S-8 relating to securities granted or to be granted pursuant to any plan in effect on the date of the underwriting agreement and described in this prospectus or any assumed benefit plan pursuant to an acquisition or similar strategic transaction.

Our directors and executive officers, and substantially all of our securityholders (such persons, the lock-up parties) have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each lock-up party, with limited exceptions, for a period of 180 days after the date of this prospectus (such period, the restricted period), may not and may not cause any of their direct or indirect affiliates to, without the prior written consent of J.P. Morgan Securities LLC, (i) 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, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for our common stock (including without limitation, our common stock or such other securities which may be deemed to be beneficially owned by the lock-up party in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant) (collectively with the common stock, the lock-up securities), (ii) enter into any hedging, swap or other agreement or transaction that transfers, in whole or in part, any of the economic consequences of ownership of the lock-up securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of the lock-up securities, in cash or otherwise, (iii) make any demand for or exercise any right with respect to the registration of any the lock-up securities, or (iv) publicly disclose the intention to do any of the foregoing.

Such persons or entities have further acknowledged that these undertakings preclude them from engaging in any hedging or other transactions or arrangements (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward, swap or any other derivative transaction or instrument, however described or defined) designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition or transfer (whether by the lock-up party or any other person) of any economic consequences of ownership, in whole or in part, directly or indirectly, of any lock-up securities, whether any such transaction or arrangement (or instrument provided for thereunder) would be settled by delivery of lock-up securities, in cash or otherwise. Such persons or entities further confirm that they have furnished the representatives with the details of any transaction such persons or entities, or any of their respective affiliates, is a party to as of the date hereof, which transaction would have been restricted by the lock-up agreements if it had been entered into by such persons or entities during the restricted period.

The restrictions described in the immediately preceding paragraph and contained in the lock-up agreements between the underwriters and the lock-up parties do not apply, subject in certain cases to various conditions, to certain transactions, including (a) transfers or dispositions of lock-up securities: (i) as bona fide gifts or charitable contribution, or for bona fide estate planning purposes, (ii) by will or intestacy or any other testamentary document, (iii) to any member of the lock-up party's immediate family or to any trust for the direct or indirect benefit of the lock-up party or the immediate family of the lock-up party, or if the lock-up party is a trust, to a trustor, trustee or beneficiary of the trust or to the estate of a trustor, trustee or beneficiary of such trust, (iv) to a corporation, partnership, limited liability company, investment fund, or other entity (A) of which the lock-up party and its immediate family members are the legal and beneficial owner of all of the outstanding equity securities or similar interests, or (B) controlled by, or under common control or common investment management with, the lock-up party or the immediate family of the lock-up party, (v) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (iv) above, (vi) in the case of a corporation, partnership, limited liability company, trust or other business entity, (A) to another corporation, partnership, limited liability company, trust or other business entity that is an affiliate of the lock-up party, or to any investment fund or other entity controlling, controlled by, managing or managed by or under common control or common investment management with the lock-up party or its affiliates or (B) as part of a distribution to limited partners, members or stockholders of the lock-up party; (vii) by operation of law, (viii) to us from the lock-up party upon death or disability, or if the lock-up party is an employee of us, upon death, disability or termination of employment of such employee, (ix) as part of a sale of lock-up securities acquired (A) from the underwriters in this offering or (B) in open market transactions after the completion of this offering, (x) to us in connection with the vesting, settlement or exercise of RSUs, options, warrants or other rights to purchase shares of our common stock (including "net" or "cashless" exercise), including for the payment of exercise price and tax and remittance payments, or (xi) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction approved by our board of directors and made to all stockholders involving a change in control, provided that if such transaction is not completed, all such lock-up securities would remain subject to the restrictions in the immediately preceding paragraph; (b) exercise of the options, settlement of RSUs or other equity awards, or the exercise of warrants granted pursuant to plans described in this prospectus, provided that any lock-up securities received upon such exercise, vesting or settlement would be subject to restrictions similar to those in the immediately preceding paragraph; (c) the conversion of outstanding preferred stock, warrants to acquire preferred stock, or convertible securities into shares of our common stock or warrants to acquire shares of our common stock, provided that any common stock or warrant received upon such conversion would be subject to restrictions similar to those in the immediately preceding paragraph; and (d) the establishment or amendment by lock-up parties of trading plans under Rule 10b5-1 under the Exchange Act, provided that (1) such plan does not provide for the transfer of lock-up securities during the restricted period and (2) no filing by any party under the Exchange Act or other public announcement shall be made voluntarily in connection with the establishment or amendment of such trading plans pursuant to Rule 10b5-1, provided that if a filing under the Exchange Act or other public announcement is required, such announcement or filing shall include a statement to the effect that no transfer of Lock-Up Securities may be made under such trading plan pursuant to Rule 10b5-1 during the restricted period.

J.P. Morgan Securities LLC, in its sole discretion, may release the securities subject to any of the lock-up agreements with the underwriters described above, in whole or in part at any time.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act.

We intend to apply to have our common stock approved for listing on the Nasdaq Global Market under the symbol "SEPN," and this offering is contingent upon obtaining approval of such listing.

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of our common stock in the open market for the purpose of preventing or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of common stock, which involves the sale by the underwriters of a greater number of shares of our common stock than they are required to purchase in this offering, and purchasing shares of our common stock on the open market to cover positions created by short sales. Short sales may be "covered" shorts, which are short positions in an amount not greater than the underwriters' option to purchase additional shares referred to above, or may be "naked" shorts, which are short positions in excess of that amount.

The underwriters may close out any covered short position either by exercising their option to purchase additional shares, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the option to purchase additional shares. 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 the common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock, and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on Nasdaq, in the over-the-counter market or otherwise.

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. In determining the initial public offering price, we and the representatives of the underwriters expect to consider a number of factors including:

- the information set forth in this prospectus and otherwise available to the representatives;
- our prospects and the history and prospects for the industry in which we compete;
- an assessment of our management;
- our prospects for future earnings;
- the general condition of the securities markets at the time of this offering;

- the recent market prices of, and demand for, publicly traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

Neither we nor the underwriters can assure investors that an active trading market will develop for shares of our common stock, or that the shares will trade in the public market at or above the initial public offering price.

Other Relationships

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Selling Restrictions

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (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:

(i) to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation), subject to obtaining the prior consent of the underwriters; or

(iii) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation. and each person who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with each of the underwriters and to us that it is a “qualified investor” within the meaning of Article 2(e) of the Prospectus Regulation. In the case of any shares being offered to a financial intermediary as that term is used in 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 of any shares to the public other than their offer or resale in a Relevant State to qualified investors as so defined or in circumstances in which the prior consent of the underwriters have been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an "offer to the public" in relation to 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.

Notice to Prospective Investors in the United Kingdom

No shares have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the shares which (i) has been approved by the Financial Conduct Authority or (ii) is to be treated as if it had been approved by the Financial Conduct Authority in accordance with the transitional provisions in Article 74 (transitional provisions) of the Prospectus Amendment etc (EU Exit) Regulations 2019/1234, except that the shares may be offered to the public in the United Kingdom at any time:

(i) to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of underwriters for any such offer; or

(iii) in any other circumstances falling within Section 86 of the FSMA,

provided that no such offer of the shares shall require us or any underwriter to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. For the purposes of this provision, the expression an "offer to the public" in relation to the shares in the United Kingdom 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 "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the Order) and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

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 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.

Notice to Prospective Investors in Switzerland

This prospectus does not constitute an offer to the public or a solicitation to purchase or invest in any shares. No shares have been offered or will be offered to the public in Switzerland, except that offers of shares may be made to the public in Switzerland at any time under the following exemptions under the Swiss Financial Services Act (FinSA):

(i) to any person which is a professional client as defined under the FinSA;

(ii) to fewer than 500 persons (other than professional clients as defined under the FinSA), subject to obtaining the prior consent of the representatives of the underwriters for any such offer; or

(iii) in any other circumstances falling within Article 36 FinSA in connection with Article 44 of the Swiss Financial Services Ordinance,

provided that no such offer of shares shall require the Company or any investment bank to publish a prospectus pursuant to Article 35 FinSA.

The shares have not been and will not be listed or admitted to trading on a trading venue in Switzerland.

Neither this document nor any other offering or marketing material relating to the shares constitutes a prospectus as such term is understood pursuant to the FinSA and neither this document nor any other offering or marketing material relating to the shares may be publicly distributed or otherwise made publicly available in Switzerland.

Notice to Prospective Investors in the Dubai International Financial Centre

This document relates to an Exempt Offer in accordance with the Markets Law, DIFC Law No. 1 of 2012, as amended. This document is intended for distribution only to persons of a type specified in the Markets Law, DIFC Law No. 1 of 2012, as amended. It must not be delivered to, or relied on by, any other person. The Dubai Financial Services Authority (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 this document. The securities to which this document relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the securities offered should conduct their own due diligence on the securities. If you do not understand the contents of this document you should consult an authorized financial advisor.

In relation to its use in the DIFC, this document is strictly private and confidential and is being distributed to a limited number of investors and must not be provided to any person other than the original recipient, and may not be reproduced or used for any other purpose. The interests in the securities may not be offered or sold directly or indirectly to the public in the DIFC.

Notice to Prospective Investors in the United Arab Emirates

The shares have not been, and are not being, publicly offered, sold, promoted or advertised in the United Arab Emirates (including the Dubai International Financial Centre) other than in compliance with the laws of the United Arab Emirates (and the Dubai International Financial Centre) governing the issue, offering and sale of securities. Further, this prospectus does not constitute a public offer of securities in the United Arab Emirates (including the Dubai International Financial Centre) and is not intended to be a public offer. This prospectus has not been approved by or filed with the Central Bank of the United Arab Emirates, the Securities and Commodities Authority, Financial Services Regulatory Authority (FSRA) or the DFSA.

Notice to Prospective Investors in Australia

This prospectus:

- does not constitute a disclosure document or a prospectus under Chapter 6D.2 of the Corporations Act 2001 (Cth) (Corporations Act);
- has not been, and will not be, lodged with the Australian Securities and Investments Commission (ASIC), as a disclosure document for the purposes of the Corporations Act and does not purport to include the information required of a disclosure document for the purposes of the Corporations Act; and
- may only be provided in Australia to select investors who are able to demonstrate that they fall within one or more of the categories of investors, available under section 708 of the Corporations Act (Exempt Investors).

The shares may not be directly or indirectly offered for subscription or purchased or sold, and no invitations to subscribe for or buy the shares may be issued, and no draft or definitive offering memorandum, advertisement or other offering material relating to any shares may be distributed in Australia, except where disclosure to investors is not required under Chapter 6D of the Corporations Act or is otherwise in compliance with all applicable Australian laws and regulations. By submitting an application for the shares, you represent and warrant to us that you are an Exempt Investor.

As any offer of shares of our common stock under this prospectus will be made without disclosure in Australia under Chapter 6D.2 of the Corporations Act, the offer of those securities for resale in Australia within 12 months may, under section 707 of the Corporations Act, require disclosure to investors under Chapter 6D.2 if none of the exemptions in section 708 applies to that resale. By applying for the shares of our common stock you undertake to us that you will not, for a period of 12 months from the date of issue of the shares, offer, transfer, assign or otherwise alienate those shares of our common stock to investors in Australia except in circumstances where disclosure to investors is not required under Chapter 6D.2 of the Corporations Act or where a compliant disclosure document is prepared and lodged with ASIC.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered pursuant to Article 4, Paragraph 1 of the Financial Instruments and Exchange Act. Accordingly, none of the shares nor any interest therein may be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any "resident" of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan),

or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan in effect at the relevant time.

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 the Laws of Hong Kong) (SFO) of Hong Kong and any rules made thereunder; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong) (CO) or which do not constitute an offer to the public within the meaning of the CO. 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 SFO and any rules made thereunder.

Notice to Prospective Investors in Singapore

Each underwriter has acknowledged that this prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each underwriter has represented and agreed that it has not offered or sold any shares or caused the shares to be made the subject of an invitation for subscription or purchase and will not offer or sell any shares or cause the shares to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, 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 (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.

(iv) Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(v) 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

(vi) 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:

(i) 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)(c)(ii) of the SFA;

(ii) where no consideration is or will be given for the transfer;

(iii) where the transfer is by operation of law;

(iv) as specified in Section 276(7) of the SFA; or

(v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Singapore SFA Product Classification — In connection with Section 309B of the SFA and the CMP Regulations 2018, unless otherwise specified before an offer of shares of our common stock, we have determined, and hereby notify all relevant persons (as defined in Section 309A(1) of the SFA), that the shares of our common stock are "prescribed capital markets products" (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Notice to Prospective Investors in Bermuda

Shares may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

Notice to Prospective Investors in Saudi Arabia

This document may not be distributed in the Kingdom of Saudi Arabia except to such persons as are permitted under the Rules on the Offer of Securities and Continuing Obligations Regulations as issued by the board of the Saudi Arabian Capital Market Authority (CMA) pursuant to resolution number 3-123-2017 dated 27 December 2017, as amended (CMA Regulations). The CMA does not make any representation as to the accuracy or completeness of this document and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective purchasers of the securities offered hereby should conduct their own due diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this document, you should consult an authorised financial adviser.

Notice to Prospective Investors in the British Virgin Islands

The shares are not being, and may not be offered to the public or to any person in the British Virgin Islands for purchase or subscription by or on behalf of us. The shares may be offered to companies incorporated under the BVI Business Companies Act, 2004 (British Virgin Islands) (BVI Companies), but only where the offer will be made to, and received by, the relevant BVI Company entirely outside of the British Virgin Islands.

Notice to Prospective Investors in China

This prospectus will not be circulated or distributed in the PRC and the shares will not be offered or sold, and will not be offered or sold to any person for re-offering or resale directly or indirectly to any residents of the PRC (for such purposes, not including the Hong Kong and Macau Special Administrative Regions or Taiwan), except pursuant to any applicable laws and regulations of the PRC. Neither this prospectus nor any advertisement or other offering material may be distributed or published in the PRC, except under circumstances that will result in compliance with applicable laws and regulations.

Notice to Prospective Investors in Korea

The shares have not been and will not be registered under the Financial Investments Services and Capital Markets Act of Korea and the decrees and regulations thereunder (FSCMA), and the shares have been and will be

offered in Korea as a private placement under the FSCMA. None of the shares may be offered, sold or delivered directly or indirectly, or offered or sold to any person for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except pursuant to the applicable laws and regulations of Korea, including the FSCMA and the Foreign Exchange Transaction Law of Korea and the decrees and regulations thereunder (FETL). Furthermore, the purchaser of the shares shall comply with all applicable regulatory requirements (including but not limited to requirements under the FETL) in connection with the purchase of the shares. By the purchase of the shares, the relevant holder thereof will be deemed to represent and warrant that if it is in Korea or is a resident of Korea, it purchased the shares pursuant to the applicable laws and regulations of Korea.

Notice to Prospective Investors in Malaysia

No prospectus or other offering material or document in connection with the offer and sale of the shares has been or will be registered with the Securities Commission of Malaysia (Commission) for the Commission's approval pursuant to the Capital Markets and Services Act 2007. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Malaysia other than (i) a closed end fund approved by the Commission; (ii) a holder of a Capital Markets Services Licence; (iii) a person who acquires the shares, as principal, if the offer is on terms that the shares may only be acquired at a consideration of not less than RM250,000 (or its equivalent in foreign currencies) for each transaction; (iv) an individual whose total net personal assets or total net joint assets with his or her spouse exceeds RM3 million (or its equivalent in foreign currencies), excluding the value of the primary residence of the individual; (v) an individual who has a gross annual income exceeding RM300,000 (or its equivalent in foreign currencies) per annum in the preceding twelve months; (vi) an individual who, jointly with his or her spouse, has a gross annual income of RM400,000 (or its equivalent in foreign currencies), per annum in the preceding twelve months; (vii) a corporation with total net assets exceeding RM10 million (or its equivalent in a foreign currencies) based on the last audited accounts; (viii) a partnership with total net assets exceeding RM10 million (or its equivalent in foreign currencies); (ix) a bank licensee or insurance licensee as defined in the Labuan Financial Services and Securities Act 2010; (x) an Islamic bank licensee or takaful licensee as defined in the Labuan Financial Services and Securities Act 2010; and (xi) any other person as may be specified by the Commission; provided that, in the each of the preceding categories (i) to (xi), the distribution of the shares is made by a holder of a Capital Markets Services License who carries on the business of dealing in securities. The distribution in Malaysia of this prospectus is subject to Malaysian laws. This prospectus does not constitute and may not be used for the purpose of public offering or an issue, offer for subscription or purchase, invitation to subscribe for or purchase any securities requiring the registration of a prospectus with the Commission under the Capital Markets and Services Act 2007.

Notice to Prospective Investors in Taiwan

The shares have not been and will not be registered with the Financial Supervisory Commission of Taiwan pursuant to relevant securities laws and regulations and may not be sold, issued or offered within Taiwan through a public offering or in circumstances which constitutes an offer within the meaning of the Securities and Exchange Act of Taiwan that requires a registration or approval of the Financial Supervisory Commission of Taiwan. No person or entity in Taiwan has been authorised to offer, sell, give advice regarding or otherwise intermediate the offering and sale of the shares in Taiwan.

Notice to Prospective Investors in South Africa

Due to restrictions under the securities laws of South Africa, no "*offer to the public*" (as such term is defined in the South African Companies Act, No. 71 of 2008 (as amended or re-enacted) (the South African Companies Act) is being made in connection with the issue of the shares in South Africa. Accordingly, this document does not, nor is it intended to, constitute a "*registered prospectus*" (as that term is defined in the South African Companies Act) prepared and registered under the South African Companies Act and has not been approved by,

and/or filed with, the South African Companies and Intellectual Property Commission or any other regulatory authority in South Africa. The shares are not offered, and the offer shall not be transferred, sold, renounced or delivered, in South Africa or to a person with an address in South Africa, unless one or other of the following exemptions stipulated in section 96 (1) applies:

Section 96 (1) (a)	the offer, transfer, sale, renunciation or delivery is to: (i) persons whose ordinary business, or part of whose ordinary business, is to deal in securities, as principal or agent; (ii) the South African Public Investment Corporation; (iii) persons or entities regulated by the Reserve Bank of South Africa; (iv) authorised financial service providers under South African law; (v) financial institutions recognised as such under South African law; (vi) a wholly-owned subsidiary of any person or entity contemplated in (c), (d) or (e), acting as agent in the capacity of an authorised portfolio manager for a pension fund, or as manager for a collective investment scheme (in each case duly registered as such under South African law); or (vii) any combination of the person in (i) to (vi), or
Section 96 (1) (b)	the total contemplated acquisition cost of the securities, for any single addressee acting as principal is equal to or greater than ZAR1,000,000 or such higher amount as may be promulgated by notice in the Government Gazette of South Africa pursuant to section 96(2)(a) of the South African Companies Act.

Information made available in this prospectus should not be considered as "*advice*" as defined in the South African Financial Advisory and Intermediary Services Act, 2002.

Notice to Prospective Investors in Israel

In the State of Israel this prospectus shall not be regarded as an offer to the public to purchase shares of our common stock under the Israeli Securities Law, 5728—1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728–1968, including, inter alia, if: (i) the offer is made, distributed or directed to not more than 35 investors, subject to certain conditions, or the Addressed Investors; or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728—1968, subject to certain conditions, or the "Qualified Investors." The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. We have not and will not take any action that would require us to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728—1968. We have not and will not distribute this prospectus or make, distribute or direct an offer to subscribe for our shares of our common stock to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728—1968. In particular, we may request, as a condition to be offered shares of our common stock, that Qualified Investors will each represent, warrant and certify to us and/or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728—1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728—1968 and the regulations promulgated thereunder in connection with the offer to be issued shares of our common stock; (iv) that the shares of our common stock that

it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728—1968 (A) for its own account, (B) for investment purposes only, and (C) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728—1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor's name, address and passport number or Israeli identification number.

LEGAL MATTERS

The validity of the shares of our common stock being offered in this prospectus will be passed upon for us by Goodwin Procter LLP, Redwood City, California. Cooley LLP, San Francisco, California, is representing the underwriters in this offering.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our financial statements at December 31, 2022 and 2023, and for each of the two years in the period ended December 31, 2023, as set forth in their report. We have included our financial statements in the prospectus and elsewhere in the registration statement in reliance on Ernst & Young LLP's report, given on their authority 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 (File Number 333-) under the Securities Act with respect to the common stock we are offering by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information included in the registration statement. For further information pertaining to us and our common stock, you should refer to the registration statement and to its exhibits. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement or other document.

Upon the completion of the offering, we will be subject to the informational requirements of the Exchange Act and will file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read our SEC filings, including the registration statement, at the SEC's website at *www.sec.gov*.

SEPTERNA, INC.

INDEX TO FINANCIAL STATEMENTS

Financial Statements as of and for the Years Ended December 2022 and 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of
Septerna, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Septerna, Inc. (the Company) as of December 31, 2022 and 2023, the related statements of operations and comprehensive (loss) income, convertible preferred stock and stockholders' deficit and cash flows for the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2023, and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

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 and in accordance with auditing standards generally accepted in the United States of America. 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 2023.

San Mateo, California
August 2, 2024

SEPTERNA, INC.

Balance Sheets

(In thousands, except for share and per share data)

	As of December 31, 2022	2023
Assets		
Current assets:		
Cash and cash equivalents	$ 30,607	$ 88,483
Accounts receivable	—	151
Other receivable related to sale of non-financial asset	—	22,625
Prepaid expenses and other current assets	1,283	1,419
Total current assets	31,890	112,678
Property and equipment, net	2,403	4,665
Operating lease right-of-use asset	702	12,522
Restricted cash	862	905
Other non-current assets	262	97
Total assets	$ 36,119	$130,867
Liabilities, Convertible Preferred Stock and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 3,071	$ 2,637
Accrued expenses and other current liabilities	1,762	4,277
Operating lease liability, current	710	—
Total current liabilities	5,543	6,914
Operating lease liability, non-current	—	12,566
Other non-current liabilities	83	546
Total liabilities	5,626	20,026
Commitments and contingencies (Note 7)		
Convertible preferred stock:		
Series A convertible preferred stock, $0.001 par value per share; 100,000,000 and 75,000,000 shares authorized at December 31, 2022 and 2023, respectively; 75,000,000 shares issued and outstanding as of December 31, 2022 and 2023; liquidation preference of $75,000 at December 31, 2022 and 2023	74,694	74,694
Series B convertible preferred stock, $0.001 par value per share; no shares authorized issued or outstanding at December 31, 2022; 121,657,452 shares authorized at December 31, 2023; 60,828,720 shares issued and outstanding as of December 31, 2023; liquidation preference of $75,000 at December 31, 2023	—	74,521
Stockholders' deficit:		
Common stock, $0.001 par value per share, 150,000,000 and 260,590,689 shares authorized at December 31, 2022 and 2023, respectively; 27,396,979 shares and 27,279,062 shares issued and outstanding at December 31, 2022 and 2023, respectively; 13,153,654 and 8,628,033 shares subject to repurchase as of December 31, 2022 and 2023, respectively	15	19
Additional paid-in capital	6,540	8,183
Accumulated deficit	(50,756)	(46,576)
Total stockholders' deficit	(44,201)	(38,374)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 36,119	$130,867

The accompanying notes are an integral part of these financial statements.

SEPTERNA, INC.

Statements of Operations and Comprehensive (Loss) Income

(In thousands, except for share and per share data)

	Years Ended December 31,	
	2022	2023
Revenue	$ —	$ 151
Operating expenses (income):		
Research and development	22,044	35,979
General and administrative	5,923	9,722
Gain on sale of non-financial asset	—	(47,625)
Total operating expenses (income)	27,967	(1,924)
(Loss) income from operations	(27,967)	2,075
Other income, net:		
Interest income	291	2,786
Other income, net	—	10
Total other income, net	291	2,796
(Loss) income before provision for income taxes	(27,676)	4,871
Provision for income taxes	—	691
Net (loss) income and comprehensive (loss) income	$ (27,676)	$ 4,180
Net (loss) income attributable to common stockholders	$ (27,676)	$ 567
Net (loss) income per share attributable to common stockholders:		
Basic	$ (2.24)	$ 0.03
Diluted	$ (2.24)	$ 0.03
Weighted-average shares outstanding used in computing net (loss) income per share attributable to common stockholders:		
Basic	12,372,127	16,606,017
Diluted	12,372,127	18,746,058

The accompanying notes are an integral part of these financial statements.

SEPTERNA, INC.

Statements of Convertible Preferred Stock and Stockholders' Deficit

(In thousands, except for share data)

	Convertible Preferred Stock				Common Stock		Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Deficit
	Series A		Series B						
	Shares	Amount	Shares	Amount	Shares	Amount			
Balance at December 31, 2021	45,000,000	$44,725	—	$ —	19,247,500	$ 11	$ 5,017	$ (23,080)	$ (18,052)
Issuance of Series A Convertible Preferred Stock, net of issuance costs of $31	30,000,000	29,969	—	—	—	—	—	—	—
Issuance of restricted common stock	—	—	—	—	8,200,000	—	—	—	—
Vesting of restricted common stock	—	—	—	—	—	4	3	—	7
Repurchase of unvested restricted common stock	—	—	—	—	(50,521)	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	1,520	—	1,520
Net loss	—	—	—	—	—	—	—	(27,676)	(27,676)
Balance at December 31, 2022	75,000,000	74,694	—	—	27,396,979	15	6,540	(50,756)	(44,201)
Issuance of Series B Convertible Preferred Stock, net of issuance costs of $479	—	—	60,828,720	74,521	—	—	—	—	—
Vesting of restricted common stock	—	—	—	—	—	4	23	—	27
Repurchase of unvested restricted common stock	—	—	—	—	(117,917)	—	—	—	—
Stock-based compensation expense	—	—	—	—	—	—	1,620	—	1,620
Net income	—	—	—	—	—	—	—	4,180	4,180
Balance at December 31, 2023	75,000,000	$74,694	60,828,720	$74,521	27,279,062	$ 19	$ 8,183	$ (46,576)	$ (38,374)

The accompanying notes are an integral part of these financial statements.

SEPTERNA, INC.

Statements of Cash Flows

(In thousands)

	Years Ended December 31,	
	2022	2023
Cash flows from operating activities:		
Net (loss) income	$ (27,676)	$ 4,180
Adjustments to reconcile net (loss) income to net cash used in operating activities:		
Depreciation and amortization	577	848
Gain on sale of non-financial asset	—	(47,625)
Non-cash operating lease expense	530	807
Stock-based compensation	1,520	1,620
Loss on disposal of property and equipment	—	30
Deferred income tax	—	491
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(1,025)	(136)
Accounts receivable	—	(151)
Other non-current assets	244	165
Accounts payable	1,726	(653)
Accrued expenses and other current liabilities	1,374	2,471
Operating lease, net	(573)	(770)
Net cash used in operating activities	(23,303)	(38,723)
Cash flows from investing activities:		
Purchases of property and equipment	(1,289)	(2,878)
Proceeds from sale of non-financial asset	—	25,000
Net cash (used in) provided by investing activities	(1,289)	22,122
Cash flows from financing activities:		
Proceeds from issuance of restricted common stock	82	—
Repurchases of forfeited restricted common stock	—	(1)
Proceeds from issuance of Series A convertible preferred stock, net of issuance costs	29,969	—
Proceeds from issuance of Series B convertible preferred stock, net of issuance costs	—	74,521
Net cash provided by financing activities	30,051	74,520
Net increase in cash, cash equivalents and restricted cash	5,459	57,919
Cash, cash equivalents and restricted cash, beginning of year	26,010	31,469
Cash, cash equivalents and restricted cash, end of year	$ 31,469	$ 89,388
Supplemental cash flow information:		
Cash paid for income taxes	$ —	$ 75
Supplemental disclosure for noncash investing and financing activities:		
Right-of-use asset obtained in exchange for operating lease liability	$ 611	$ 12,579
Other receivable related to sale of non-financial asset	$ —	$ 22,625
Property and equipment held in accounts payable and accrued expenses	$ —	$ 262

The accompanying notes are an integral part of these financial statements.

SEPTERNA, INC.

Notes to Financial Statements

1. Organization

Description of the Business

Septerna, Inc. ("Septerna" or the "Company") is a clinical-stage biotechnology company pioneering a new era of G protein-coupled receptor ("GPCR") oral small molecule drug discovery powered by its proprietary Native Complex Platform™. The Company's industrial-scale platform aims to unlock the full potential of GPCR therapies and has led to the discovery and development of its deep pipeline of product candidates focused on treating patients in three therapeutic areas: endocrinology, immunology and inflammation, and metabolic diseases.

The Company's proprietary Native Complex Platform™ replicates the natural structure, function, and dynamics of GPCRs outside of cells at an industrial scale for, as the Company believes, the first time. The Company's foundational technologies enable it to isolate, purify, and reconstitute full-length, properly folded GPCR proteins within ternary complexes with ligands and transducer proteins in a lipid bilayer that mimics the cell membrane. The Company then applies state-of-the-art discovery tools and technologies to these defined and tunable protein complexes to structurally design, screen for, and optimize potential product candidates. Leveraging its platform, the Company has transformed GPCR oral small molecule drug discovery to an industrialized and iterative structure-based drug design approach to expand the landscape of druggable GPCR targets with novel oral small molecule medicines for patients. The Company's Native Complex Platform™ is designed to enable it to target certain GPCRs for the first time, uncover novel binding pockets for validated receptors, and pursue a wide spectrum of pharmacologies, including agonists, antagonists, and allosteric modulators, to affect GPCR signaling in different ways to achieve desired therapeutic effects.

The Company was incorporated in Delaware in December 2019, under the name GPCR NewCo, Inc. In June 2021, the Company changed its name to Septerna, Inc. The Company is headquartered in South San Francisco, California.

Liquidity and Capital Resources

The accompanying financial statements have been prepared assuming the Company will continue as a going concern, which assumes that the Company will realize its assets and satisfies its liabilities in the normal course of business. The Company is subject to risks inherent in operating an early-stage biotechnology business. These risks include, but are not limited to, dependence on the development of marketable products, the ability to attract, retain, and motivate qualified personnel, rapid technological changes and the rapidly evolving nature of the biotechnology industry.

The Company has historically financed its operations primarily through the issuances of convertible promissory notes and convertible preferred stock. In November 2021, the Company entered into a total of $100.0 million of Series A convertible preferred stock financing which was divided into two tranches. The initial tranche was completed in November 2021 for net proceeds of $44.7 million, of which $30.0 million was received in cash, net of issuance costs, and $14.7 million was for the conversion of the then outstanding convertible promissory notes plus accrued interest. In November 2022, the Company executed the second tranche for net cash proceeds of $30.0 million. In June 2023, the Company entered into a total of $150.0 million of Series B Convertible Preferred Stock financing, which was divided into two tranches of equal amounts. The first tranche, which was the issuance of $75.0 million of Series B Convertible Preferred Stock, was completed in July 2023 for net proceeds of $74.5 million (see Note 8).

The second tranche, which is the issuance of the remaining $75.0 million, was completed in May 2024 for net proceeds of $74.9 million (see Note 8). Upon issuance of the Series B Convertible Preferred Stock, the Company also amended the Series A Preferred Stock agreement to cancel the remaining 25.0 million unissued shares of Series A Convertible Preferred Stock originally authorized under the agreement.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

During the year ended December 31, 2023, the Company recorded a gain totaling $47.6 million for the sale of an in-progress research and development ("IPR&D") asset related to a GPCR program (see Note 4) and $0.2 million in revenue related to research services (see Note 5) resulting in net income of $4.2 million. Management expects to incur net losses for the foreseeable future as it conducts research and development. To date, none of the Company's product candidates have been approved by the U.S. Food and Drug Administration ("FDA") for commercial sale and, therefore, the Company has not generated any revenue from product sales.

Other than the income generated during the year ended December 31, 2023, the Company has experienced net losses from operations and negative cash flows from operating activities and capital expenditures since inception and had an accumulated deficit of $46.6 million as of December 31, 2023. The Company believes its cash and cash equivalents of $88.5 million as of December 31, 2023, together with (i) the receipt of the remaining $22.6 million in the first half of 2024 related to the gain recognized during the year ended December 31, 2023 and (ii) the net proceeds from the issuance of its second tranche of Series B Convertible Preferred Stock of $74.9 million received in May 2024 (see Note 8) will be sufficient to fund the Company's operations for, at least, twelve months from the date of issuance of the financial statements.

The Company will need substantial additional funding to support its continuing operations and pursue its development strategy. Until such time as the Company can generate significant revenue from commercial sales of its product candidates, if ever, management may seek additional funding through the issuance of preferred stock or common stock, debt financings, or licensing arrangements or collaborations/partnerships with other companies. The amount and timing of future funding requirements will depend on many factors, including the pace and results of clinical development efforts for the Company's product candidates and other research, development and manufacturing activities. Management may not be able to raise additional capital on terms favorable for or acceptable to the Company, or at all. Any failure to raise capital as and when needed would compromise the Company's ability to execute on its business plan and may cause the Company to significantly delay, scale back or discontinue the research and development of some of its programs or curtail any efforts to expand its product pipelines and will materially harm its business, financial position and results of operations.

Since its founding, the Company has devoted substantially all of its resources to organizing and staffing the Company, business planning, raising capital, developing its proprietary platform and structure-based drug discovery platform, identifying and discovering its product candidates, establishing its intellectual property portfolio, conducting research and preclinical studies, including Investigational New Drug (IND)-enabling studies, initiating and conducting clinical trials, establishing arrangements with third parties for the manufacture of its product candidates and related raw materials, and providing general and administrative support for these operations.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"), stated in U.S. dollars and include all adjustments necessary for the fair presentation of the Company's financial statements as of December 31, 2022 and 2023, and for the years then ended. Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification and Accounting Standards Updates ("ASUs"), of the Financial Accounting Standards Board ("FASB").

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures at the date of

the financial statements and reported amounts of expenses during the reporting periods. These estimates form the basis for judgments the Company makes about the carrying values of assets and liabilities that are not readily apparent from other sources. The Company bases its estimates using historical experience, Company forecasts and future plans, current economic conditions, and information from third-party professionals that management believes to be 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 and adjusts those estimates and assumptions when facts and circumstances dictate. Estimates are used in accounting for, among other things, useful lives of property and equipment, the rate used in determining the present value of lease payments, fair value of assets and liabilities, research and development accruals, the fair value of common stock and stock options, the allocation of a revenue contract's transaction price to each distinct performance obligation on a relative standalone selling price basis, uncertain tax positions and the valuation allowance for deferred income tax assets. Actual results may differ from these estimates and assumptions.

The Company utilizes estimates and assumptions in determining the fair value of its common stock, including stock-based awards. The Company has granted stock options at exercise prices that represented the fair value of its common stock on the specific grant dates. The Company utilized various valuation methodologies in accordance with the framework of the American Institute of Certified Public Accountants Technical Practice Aid, Valuation of Privately Held Company Equity Securities Issued as Compensation, to estimate the fair value of its common stock. Each valuation methodology includes estimates and assumptions that require the Company's judgment. These estimates and assumptions include a number of objective and subjective factors, including external market conditions, the prices at which the Company sold shares of convertible preferred stock, the superior rights and preferences of the convertible preferred stock senior to the Company's common stock at the time, and a probability analysis of various liquidity events, such as a public offering or sale of the Company, under differing scenarios. Changes to the key assumptions used in the valuations could result in different fair values of common stock at each valuation date.

The Company's results can also be affected by economic, political, legislative, regulatory and legal actions. Economic conditions, such as recessionary trends, inflation, interest, changes in regulatory laws and monetary exchange rates, and government fiscal policies, can have a significant effect on operations. While the Company maintains reserves for anticipated liabilities, the Company could be affected by civil, criminal, regulatory or administrative actions, claims or proceedings.

Segment Reporting

Operating segments are defined as components of an entity for which separate financial information is available and that is regularly reviewed by the chief operating decision maker ("CODM"), in deciding how to allocate resources to an individual segment and in assessing performance. The Company's CODM is its chief executive officer. The Company has determined it operates in one segment. As of December 31, 2022 and 2023, all of the Company's property and equipment was maintained in the United States. For the year ended December 31, 2023, all of the Company's revenue was generated and incurred in the United States.

Risks and Uncertainties

Financial instruments, which potentially subject the Company to a concentration of credit risk, consist primarily of cash and cash equivalents and accounts receivable. The Company invests its cash equivalents in money market funds and limits its credit risk by placing its cash and cash equivalents with banks and institutions that are highly creditworthy. Such deposits may be in excess of the Federal Deposit Insurance Corporation ("FDIC") insured limits. The Company is exposed to credit risk in the event of default by the financial institutions holding its cash and cash equivalents to the extent recorded in the balance sheet.

The primary focus of the Company's investment strategy is to preserve capital and meet liquidity requirements. Management believes that the Company is not exposed to significant credit risk due to the high-credit-quality financial institutions in which those deposits are held. The Company has not experienced any losses on its cash and cash equivalents since inception. The Company has no significant off-balance sheet concentrations of credit risk.

The Company is subject to all of the risks inherent in an early-stage biotechnology company. These risks include, but are not limited to, limited management resources, efficacy of product candidates, intense competition, and dependence upon the availability of cash to sustain operations.

Cash, Cash Equivalents and Restricted Cash

The Company considers all highly liquid investments with original maturities of 90 days or less from the date of purchase to be cash equivalents. Cash equivalents are reported at fair value. At December 31, 2022 and 2023, the Company's cash equivalents are all held in money market funds. As of the balance sheet date, and periodically throughout the year, the Company has maintained balances in various operating accounts in excess of the FDIC insured limits.

Restricted cash is comprised of cash that is restricted as to withdrawal or use under the terms of certain contractual agreements. In connection with the Company's lease agreement (see Note 6), the Company is required to maintain a collateral account to secure a letter of credit issued to its landlord. The collateral account is classified as restricted cash on the Company's balance sheets.

The Company's cash, cash equivalents and restricted cash consisted of the following (in thousands):

	As of December 31,	
	2022	2023
Cash and cash equivalents	$30,607	$88,483
Restricted cash	862	905
Cash, cash equivalents, and restricted cash	$31,469	$89,388

Accounts Receivable and Other Receivables

The Company recognizes a receivable when the Company has an unconditional right to payment, which is generally at the time of delivery of assets, or at the time services are rendered.

An allowance for expected credit losses over the life of the receivables is reserved for based on a combination of historical experience, aging analysis, current economic trends and information on specific accounts, with related amounts recorded as a reserve against revenue recognized. The reserve is re-evaluated on a regular basis and adjusted as needed. Once a receivable is deemed to be uncollectible, such balance is charged against the reserve. No allowance for credit losses was recorded during the year ended December 31, 2023.

As of December 31, 2023, the Company's accounts receivable and other receivable related to sale of non-financial asset balances were entirely attributed to Vertex Pharmaceuticals Incorporated ("Vertex") (see Note 4 and Note 5). The Company did not have accounts receivable as of December 31, 2022.

Property and Equipment, Net

Property and equipment is recorded at cost, subject to adjustments for impairments, less accumulated depreciation. The Company depreciates property and equipment using the straight-line method over the estimated useful lives of the respective assets, as follows:

Lab equipment	5 years
Furniture and fixtures	5 years
Office equipment	5 years
Computer Equipment	3 years
Leasehold improvements	Shorter of remaining lease term or estimated useful life

Depreciation or amortization begins at the time the asset is placed in service. Maintenance and repairs that do not improve or extend the life of the respective asset are charged to expense as incurred. Upon disposal of assets, the cost and related accumulated depreciation is removed from the balance sheet and the resulting gain or loss is reflected in the statements of operations and comprehensive (loss) income within other income, net.

Impairment of Long-Lived Assets

The Company evaluates its long-lived assets for impairment, primarily its property and equipment, whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. Recoverability of these assets is measured by comparing the carrying amount of each asset to the undiscounted expected future cash flows the asset is expected to generate over its remaining life. An impairment loss would be recognized when the estimated undiscounted future cash flows expected to result from the use of the asset or asset group and its eventual disposition are less than its carrying amount. Impairment, if any, is measured as the amount by which the carrying amount of a long-lived asset or asset group exceeds its fair value. There were no impairments of the Company's long-lived assets for the years ended December 31, 2022 and 2023.

Leases

The Company accounts for its leases in accordance with FASB Accounting Standards Codification ("ASC") 842, *Leases* ("ASC 842"). The Company adopted ASC 842 on January 1, 2021, prior to entering into the lease agreement for its office and research and development space. At inception of a contract, the Company determines whether an arrangement is or contains a lease. For each lease, the Company determines the classification as either an operating lease or a financing lease. Lease recognition occurs at the lease commencement date and lease liability amounts are determined based on the present value of lease payments over the lease term. The lease term may include options to extend or terminate the lease only when it is reasonably certain that the Company will exercise that option.

The Company uses its incremental borrowing rate based on the information available at lease commencement date in determining the present value of lease payments if the Company's leases do not provide an implicit rate. The Company determines its incremental borrowing rate based on the rate of interest that the Company would have to pay to borrow on a collateralized basis over a similar term, an amount equal to the lease payments in a similar economic environment. Right-of-use assets represent the Company's right to use underlying assets for the lease term and operating lease liabilities represent the Company's obligation to make lease payments under the lease. Right-of-use assets also include any lease payments made prior to the commencement date and exclude lease incentives received.

The Company elected to apply the practical expedient of combining lease and non-lease components for the real estate lease asset class. Fixed lease payments on operating leases are recognized as lease expense over the expected term of the lease on a straight-line basis. Variable lease expenses that are not considered fixed are recognized as incurred.

In addition, the Company elected the short-term lease practical expedient that allows the lessee to not record a lease liability and right-of-use asset for all leases with a term of 12 months or less. See Note 6 for additional information on the Company's leases.

Convertible Preferred Stock

The Company records all shares of convertible preferred stock at their respective fair values on the dates of issuance, less issuance costs. In the event of a deemed liquidation event, such as a change of control of the Company, proceeds received from the sale of such shares will be distributed in accordance with the liquidation preferences set forth in the Company's certificate of incorporation unless the holders of the convertible preferred stock have converted their shares of convertible preferred stock into shares of common stock. Convertible preferred stock is therefore classified outside of stockholders' deficit on the balance sheet as events triggering redemption are not solely within the Company's control.

The Company has not adjusted the carrying values of its convertible preferred stock to the liquidation preferences because of the uncertainty of whether or when such an event would occur. As of December 31, 2022 and 2023, it was not probable that such a redemption would occur.

Revenue Recognition

The Company generated revenue for the year ended December 31, 2023 from service revenue for research activities performed related to an agreement with Vertex (see Note 5). The Company considers revenue to be earned when all of the following criteria are met: (i) the Company has a contract with a customer that creates enforceable rights and obligations; (ii) promised products or services are identified; (iii) the transaction price, or the amount the Company expects to receive, including an estimate of uncertain amounts subject to a constraint to ensure revenue is not recognized in an amount that would result in a significant reversal upon resolution of the uncertainty, is determinable; (iv) and the Company has transferred control of the promised items to the customer. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account in the contract. The transaction price for the contract is measured as the amount of consideration the Company expects to receive in exchange for the goods and services expected to be transferred. When a contract contains variable consideration and the variable consideration is constrained to the extent that it is not probable that it will be received, it is excluded from the transaction price. A contract's transaction price is allocated to each distinct performance obligation on a relative standalone selling price basis and recognized as revenue when, or as, control of the distinct good or service is transferred.

During the year ended December 31, 2023, the Company's revenue was entirely attributable to Vertex. The Company did not record revenue during the year ended December 31, 2022.

Sale of Non-Financial Assets

Sales of non-financial assets that are outside the scope of the Company's ordinary activities are accounted for under ASC 610-20, *Other Income - Gains and Losses from the Derecognition of Non-financial Assets* ("ASC 610-20"). Pursuant to ASC 610-20, the Company applies the guidance in ASC 606, *Revenue from Contracts with*

Customers ("ASC 606"), to determine if a contract exists, identify the distinct non-financial assets, and determine when control transfers and, therefore, when to derecognize the non-financial asset. Additionally, the Company applies the measurement principles of ASC 606 to determine the amount of consideration, if any, to include in the calculation of the gain or loss for the non-financial asset.

Research and Development Expenses

Research and development costs are expensed as incurred. Research and development expenses consist primarily of employee-related costs, including salaries, benefits and stock-based compensation for employees engaged in research and development activities, costs related to research activities, preclinical studies, production of preclinical materials, information technology-related costs, allocated overhead costs including facility-related expenses, contract manufacturing, consulting fees, costs related to laboratory operations and fees paid to other entities that conduct certain research and development activities on the Company's behalf. Payments made prior to the receipt of goods and services to be used in research and development are deferred and recognized as expense in the period in which the related goods are received or services are rendered.

The Company has entered into various agreements with outsourced contract manufacturing and development vendors. The Company estimates accrued research and development expenses as of each balance sheet date based on facts and circumstances known at that time. The Company periodically confirms the accuracy of its estimates with internal management personnel and external service providers, and makes adjustments, if necessary. Research and development accruals are estimated based on the level of services performed, progress of the studies, including the phase or completion of events, and contracted costs. The estimated costs of research and development services provided, but not yet invoiced, are included in accrued expenses on the balance sheets. If the actual timing of the performance of services or the level of effort varies from the original estimates, the Company will adjust the accrual accordingly. Payments made under these arrangements in advance of the performance of the related services are recorded as prepaid expenses and other current assets until the services are rendered.

Patent Expenses

Costs to secure and maintain patents covering the Company's technology and product candidates are expensed as incurred and are classified as general and administrative expenses in the statements of operations and comprehensive (loss) income.

Fair Value Measurements

Assets and liabilities recorded at fair value on a recurring basis in the balance sheets are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability 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. The authoritative guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

Level 1—Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;

Level 2—Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active or other

inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and

Level 3—Unobservable inputs that are significant to the measurement of the fair value of the assets or liabilities that are supported by little or no market data.

Fair Value of Financial Instruments

The Company defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities, which are required to be recorded at fair value, the Company considers the principal or most advantageous market in which to transact and the market-based risk. The carrying values of the Company's financial instruments, which include cash and cash equivalents, restricted cash, accounts receivable, accounts payable and accrued expenses, approximate their fair values due to their relatively short maturities.

Stock-Based Compensation

Stock-based compensation expense related to stock options and restricted stock awards granted to employees and non-employees is recognized based on the grant-date fair value of the awards. The fair value of stock options is determined using the Black Scholes option pricing model on the date of grant. The fair value of restricted stock awards is determined using the estimated fair value of the Company's common stock on the date of grant.

The fair value of the Company's common stock is determined by the Company's Board of Directors with the assistance of management and an independent third-party valuation specialist. The valuation methodologies used to determine the fair value of the Company's common stock utilize certain assumptions including probability weighting of events, volatility, time to liquidation, a risk-free interest rate and an assumption for a discount for lack of marketability. In determining the fair value of the Company's common stock, the methodologies used to estimate the enterprise value of the Company were performed using methodologies, approaches, and assumptions consistent with the American Institute of Certified Public Accountants Technical Practice Aid, "*Valuation of Privately Held Company Equity Securities Issued as Compensation,"* to estimate the fair value of its common stock. Each valuation methodology includes estimates and assumptions that require management judgment. These estimates and assumptions include a number of objective and subjective factors, including external market conditions, the prices at which the Company sold shares of convertible preferred stock, the superior rights and preferences of the convertible preferred stock senior to the Company's common stock at the time, and a probability analysis of various liquidity events, such as a public offering or sale of the Company, under different scenarios. Changes to the key assumptions used in the valuations could result in different fair values of common stock at each valuation date.

For stock-based awards with service conditions only, the Company recognizes stock-based compensation expense on a straight-line basis over the requisite service period, which is generally the vesting term of the award of four years. For stock-based awards with vesting criteria subject to the achievement of performance-based conditions, in addition to service conditions, the Company recognizes stock-based compensation expense on an accelerated basis over the vesting period when achievement of the performance criteria becomes probable.

Stock-based compensation expense is recorded within research and development and general and administrative expenses in the accompanying statements of operations and comprehensive (loss) income based on the function to which the related services are provided. The Company recognizes stock-based compensation expense for the portion of awards that have vested. Forfeitures are accounted for as they occur.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

Income Taxes

The Company adopted ASU 2019-12 Income Taxes (Topic 740): *Simplifying the Accounting for Income Taxes* on January 1, 2021, with no impact to the financial statements.

The Company utilizes the asset and liability approach to account for income taxes. Under this method, deferred income tax assets and liabilities are recorded based on the estimated future tax effects of differences between the financial statement and income tax basis of existing assets and liabilities. Deferred tax assets and liabilities are determined based upon the differences between the financial statement carrying amounts and the tax bases of existing assets and liabilities and for loss and credit carryforwards, using enacted tax rates expected to be in effect in the year in which the differences are expected to reverse. Valuation allowances are provided, if based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

The Company accounts for uncertain tax positions recognized in the financial statements by prescribing a more-likely-than-not threshold for financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. 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 interest and penalties.

Comprehensive (Loss) Income

Comprehensive (loss) income is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. The Company did not have any other comprehensive income or loss for the periods presented and therefore comprehensive (loss) income was the same as the Company's net (loss) income.

Net (Loss) Income Per Share

Basic net (loss) income per share is computed by dividing the net (loss) income by the weighted-average number of common shares outstanding during the period, without consideration of potential dilutive securities. Vested restricted stock is treated as outstanding for accounting purposes. Unvested restricted stock is not considered to be outstanding for purposes of the calculation of basic net (loss) income per share. Diluted net (loss) income per share is computed by dividing the net (loss) income by the sum of the weighted-average number of common shares outstanding during the period plus the potential dilutive effects of potential dilutive shares outstanding during the period. Potential dilutive securities include stock options, unvested restricted stock and convertible preferred stock. The dilutive effect of stock options and unvested restricted stock is computed using the treasury stock method and the dilutive effect of convertible preferred stock is calculated using the "if-converted method." For all periods presented in a net loss position, diluted net loss per share is the same as basic net loss per share since the effect of including potential common shares is anti-dilutive.

Basic and diluted net (loss) income per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The Company considers all series of its convertible preferred stock to be participating securities. Under the two-class method, the net loss attributable to common stockholders is not allocated to the convertible preferred stock as the holders of its convertible preferred stock do not have a contractual obligation to share in the Company's losses. Net income is attributed to common stockholders and participating securities based on their participation rights.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

Recent Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments (Topic 326),* which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses to estimate credit losses on certain types of financial instruments, including trade receivables and available for sale debt securities. Topic 326 is effective for annual periods beginning after December 15, 2022, and early adoption is permitted. The Company adopted Topic 326 on January 1, 2023, and the adoption did not have a material impact on its financial statements.

Accounting Pronouncements Not Yet Adopted

From time to time, new accounting pronouncements are issued by the FASB, under its ASC or other standard setting bodies, and adopted by the Company as of the specified date.

In November 2023, the FASB issued ASU 2023-07, *Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures*. ASU 2023-07 will improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses on an interim and annual basis. The ASU is effective for fiscal years beginning after December 15, 2023, and interim periods after December 5, 2024, with early adoption permitted. The adoption of this standard is not expected to have a material impact on the Company's financial statements at adoption date.

In December 2023, the FASB issued ASU No. 2023-09, *Income Taxes (Topic 740): Improvements to Income Tax Disclosures*, which enhances the transparency and decision usefulness of income tax disclosures. The standard is intended to improve income tax disclosures primarily related to the rate reconciliation and income taxes paid information. This update also includes certain other amendments to improve the effectiveness of income tax disclosures. The ASU is effective for fiscal years beginning after December 15, 2025, on a prospective basis. Early adoption and retrospective reporting are permitted. We are currently evaluating the impact of ASU 2023-09 on our financial statements.

Emerging Growth Company Status and Smaller Reporting Company Status

The Company is an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act, until such time as those standards apply to private companies. The Company has elected to use this 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 that it (i) is no longer an emerging growth company or (ii) affirmatively and irrevocably opts out of the extended transition period provided in the JOBS Act. As a result, these financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

The Company is also a smaller reporting company as defined in the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The Company may continue to be a smaller reporting company even after it is no longer an emerging growth company. The Company may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as its voting and non-voting common stock held by non-affiliates is less than $250.0 million measured on the last business day of its second fiscal quarter, or its annual revenue is less than $100.0 million during the most recently completed fiscal year and its voting and non-voting common stock held by non-affiliates is less than $700.0 million measured on the last business day of its second fiscal quarter.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

3. Balance Sheet Components

Cash and Cash Equivalents

Cash and cash equivalents consisted of the following (in thousands):

	As of December 31,	
	2022	2023
Cash	$ 1,000	$ 1,909
Cash equivalents:		
Money market funds	29,607	86,574
Cash and cash equivalents	$30,607	$88,483

Money market funds are highly liquid investments and are actively traded. The fair value of the Company's money market funds are based on quoted prices in active markets for identical securities. This approach results in the classification of these securities as Level 1 of the fair value hierarchy. There were no transfers between Level 1, 2, or 3 for any of the periods presented.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following (in thousands):

	As of December 31,	
	2022	2023
Prepaid expenses	$ 566	$ 874
Prepaid bonus	513	378
Other current assets	204	167
Prepaid expenses and other current assets	$1,283	$1,419

Property and Equipment, Net

Property and equipment, net consist of the following (in thousands):

	As of December 31,	
	2022	2023
Lab equipment	$2,970	$ 4,967
Furniture and fixtures	34	465
Leasehold improvements	—	389
Office equipment	43	248
Computer equipment	154	218
Total property and equipment	3,201	6,287
Less: Accumulated depreciation and amortization	(798)	(1,622)
Property and equipment, net	$2,403	$ 4,665

Depreciation and amortization expense was $0.6 million and $0.8 million for the years ended December 31, 2022 and 2023, respectively.

Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following (in thousands):

	As of December 31,	
	2022	2023
Accrued compensation expense	$1,706	$2,954
Accrued operating expense	6	1,038
Accrued income taxes payable	—	200
Other current liabilities	50	85
Accrued expenses and other current liabilities	$1,762	$4,277

4. Gain on Sale of Non-Financial Asset

Vertex Asset Sale

In September 2023, the Company entered into an asset purchase agreement with Vertex under which Vertex acquired an IPR&D asset related to a GPCR program, including all intellectual property, materials, and compounds associated with the program (the "Vertex Purchase Agreement"). Additionally, as part of the agreement, Vertex assumed all claims, counterclaims and credits associated with the program, and the Company gave up all rights to the intellectual property. The transfer of the IPR&D asset to Vertex was completed in November 2023.

At the same time in September 2023, the Company entered into a research service agreement with Vertex under which the Company agreed to perform certain exploratory research activities for Vertex (the "Vertex Research Service Agreement") (see Note 5).

The Company concluded that the IPR&D asset sale should be accounted for under the guidance at ASC 610-20, as this type of transaction did not meet the definition of "ordinary activities" of the Company and Vertex should not be considered a "customer" in this transaction. However, since both the Vertex Purchase Agreement and the Vertex Research Service Agreement were entered into at the same time with the same counterparty with a single commercial objective, the Company combined the contracts and applied the allocation principles under ASC 606. The Company identified the performance obligations in both contracts, determined the transaction price and allocated the transaction price to the performance obligations in the contracts based on the estimated standalone selling price for each performance obligation.

During the year ended December 31, 2023, the Company recorded a gain on sale of non-financial asset of $47.6 million for the sale of the IPR&D asset to Vertex on its statements of operations and comprehensive (loss) income. The Company received $25.0 million in cash at the closing of the agreement in September 2023 and recorded the remaining balance of $22.6 million in other receivable related to sale of non-financial asset on its balance sheet as of December 31, 2023. As of December 31, 2023, the sale of the IPR&D asset was complete and the Company had an unconditional right to the $22.6 million. The Company received the payment of $22.6 million of this balance in the first half of 2024.

The Vertex Purchase Agreement also provides for a potential milestone payment payable to the Company contingent upon achievement of a certain research milestone. The milestone payment amount is determined based on the timing of achievement of the research milestone. The variable consideration related to this milestone payment was determined to be improbable of receipt at this time. As a result, the milestone payment was excluded from the transaction price. After the potential milestone payment, the Company will not receive any other payments or future royalties related to this IPR&D asset.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

5. Revenue

Vertex Research Service Agreement

As disclosed in Note 4, the Company entered into the Vertex Research Service Agreement in September 2023 under which the Company agreed to perform certain exploratory research activities for Vertex. Although the Company accounted for the IPR&D asset sale under the guidance at ASC 610-20, the research services portion of the transaction fell under the scope of the revenue from contracts with customers guidance, ASC 606.

The Vertex Research Service Agreement is for a two-year term, however, Vertex has the ability to terminate the agreement with a 30-day notice at any time. As a result, the Company concluded that the contract duration is 30 days, representing a month-to-month service contract. The Company recognizes this service revenue over the performance period of the research services as the services are provided. The Vertex Research Service Agreement also includes a provision related to additional research services, which the Company concluded met the definition of a customer option under ASC 606. The Company will recognize revenue related to the customer option if and when it is exercised.

During the year ended December 31, 2023, the Company recorded revenue of $0.2 million related to research activities performed in connection with the Vertex Research Service Agreement, which is also included in accounts receivable on the Company's balance sheet at December 31, 2023.

6. Leases

Operating Lease

In April 2021, the Company entered into an operating lease for 12,560 square feet of office and research and development space at the Company's headquarters in South San Francisco, California, which was scheduled to expire in February 2023. In September 2022, the Company amended the lease agreement to include an additional 9,348 square feet of office and research and development space, increasing the total leased premises to 21,908 square feet (the "Original Leased Space"), which was also scheduled to expire in February 2023.

In December 2022, the Company entered into another lease amendment to extend the lease term of the Original Leased Space (the "Extension of Original Leased Space") and lease an additional 22,911 square feet of office and research and development space (the "Additional Leased Space"). Upon completion of the construction of the new office and research and development space in November 2023, the Additional Leased Space commenced, and the Company relocated its operations to the Additional Leased Space and vacated the Original Leased Space to allow the landlord to renovate it.

Renovation of the Original Leased Space was completed in July 2024. Upon completion of the renovation of the Original Leased Space, the lease of the Original Leased Space commenced, resulting in the total leased premises increasing to 44,819 square feet (the "Leased Space"). The lease term for the Leased Space is for eight years from the commencement date of the Original Leased Space. The amended lease also includes an option for the Company to extend the lease for an additional eight-year term (the "Extension Option"). As of December 31, 2023, it is not probable that the Company will exercise the Extension Option. As a result, the Company did not include the Extension Option in the calculation of the right-of-use asset and lease liability.

During the year ended December 31, 2023, the Company recorded an operating lease right-of-use asset and operating lease liability for the Additional Leased Space as the lease commenced in November 2023, when the Company took control of the property. As of December 31, 2023, the entire balance of the operating lease liability associated with the Additional Leased Space was classified as non-current as the Company received a

rent abatement for four months in the first year of the lease and, therefore, the operating lease liability will increase over the 12 month-period starting from December 31, 2023. For the year ended December 31, 2022, the Company did not recognize a right-of-use asset or operating lease liability for the minimum rental payments associated with the Additional Leased Space.

The following table summarizes the expenses recognized and cash paid for the Leased Space (in thousands):

	Years Ended December 31,	
	2022	2023
Cash paid for operating lease liabilities	$ 595	$ 897
Operating lease costs	553	964
Short-term lease costs	154	1,018

During the year ended December 31, 2022, the Company recorded an increase of $0.6 million in the right-of-use asset and operating lease liability related to the Extension of Original Leased Space. In December 2023, the Company recorded a $12.6 million right-of-use asset and $12.6 million operating lease liability associated with the Additional Leased Space. These amounts are disclosed in the supplemental information of noncash activities on the statements of cash flows.

As of December 31, 2022, the remaining lease term of the Original Leased Space was approximately 1.0 year. The incremental borrowing rate used for the calculation of the present value of lease payments over the lease term for the Extension of Original Leased Space was approximately 18.8%.

As of December 31, 2023, the remaining lease term of the Additional Leased Space was approximately 8.5 years. The incremental borrowing rate used for the calculation of the present value of lease payments over the lease term at the lease commencement date was approximately 12.3%.

As of December 31, 2023, future minimum rental payments for operating leases, including for the Original Leased Space, were as follows (in thousands):

Year Ending December 31,	Future Payments
2024	$ 1,913
2025	4,469
2026	4,612
2027	4,760
2028	4,912
Thereafter	18,490
Total lease payments	39,156
Less: undiscounted lease payments*	(18,690)
Less: imputed interest	(7,900)
Total present value of operating lease liability	$ 12,566

* Related to the Original Leased Space, which was under renovation at December 31, 2023 and commenced in July 2024.

As of December 31, 2022 and 2023, the Company did not have any finance leases.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

7. Commitments and Contingencies

Legal Proceedings

In the ordinary course of business, the Company may be subject to legal proceedings, claims and litigation, as the Company operates in an industry susceptible to patent or other legal claims. The Company accounts for estimated losses with respect to legal proceedings and claims when such losses are probable and estimable. Legal costs associated with these matters are expensed when incurred.

Indemnifications

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. As permitted under Delaware law and in accordance with its bylaws, the Company indemnifies its officers and directors for certain events or occurrences while the officer or director is or was serving in such capacity. The Company is also party to indemnification agreements with its officers and directors.

The Company also agreed to indemnify the investors against certain losses, claims or liabilities due to certain statements, omissions or violations by the Company if Company securities held by the investors are included in a registration statement. The certain statements, omissions or violations that are covered by these include, but are not limited to, (i) any untrue statement or alleged untrue statement of a material fact contained in the applicable registration statement, (ii) any omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading, (iii) any violation or alleged violation by the Company of the Securities Act of 1933, as amended, the Exchange Act, and certain other securities laws. The Company will reimburse the investors for any legal or other expenses reasonably incurred by them in connection with investigating or defending such losses, claims, damages or liabilities.

The maximum potential amount of future payments that the Company could be required to make under these provisions is not determinable. The Company is not currently aware of any indemnification claims. Accordingly, the Company did not record any liabilities associated with these indemnification rights and agreements as of December 31, 2022 and 2023.

8. Convertible Preferred Stock

As of December 31, 2022, the Company's convertible preferred stock consisted of the following (in thousands, except for share and per share amounts):

Series	Authorized Shares	Issued and Outstanding	Carrying Value	Liquidation Preference	Conversion Price Per Share
Series A	100,000,000	75,000,000	$ 74,694	$ 75,000	$ 1.00000

As of December 31, 2023, convertible preferred stock consisted of the following (in thousands, except for share and per share amounts):

Series	Authorized Shares	Issued and Outstanding	Carrying Value	Liquidation Preference	Conversion Price Per Share
Series A	75,000,000	75,000,000	$ 74,694	$ 75,000	$ 1.00000
Series B	121,657,452	60,828,720	74,521	75,000	1.23297

In November 2021, the Company executed a Series A Convertible Preferred Stock financing arrangement that would provide financing of up to $100.0 million over an initial tranche and subsequent callable tranches through the issuance of up to 100.0 million shares of Series A Convertible Preferred Stock at an issuance price of

SEPTERNA, INC.

Notes to Financial Statements—(continued)

$1.00 per share. In the initial tranche, the Company issued 45.0 million shares of Series A Convertible Preferred Stock for net proceeds of $44.7 million, of which $30.0 million was received in cash, net of issuance costs, and $14.7 million was for the conversion of the then outstanding convertible promissory notes plus accrued interest. The Series A Convertible Preferred Stock financing arrangement represented an equity financing, per the terms of the outstanding convertible promissory notes, and as such the unpaid principal and accrued interest outstanding of $14.7 million was converted into approximately 14.7 million shares of Series A Convertible Preferred Stock. Additionally, in November 2022, the Company executed the second tranche and issued 30.0 million shares of Series A Convertible Preferred Stock and received net cash proceeds of $30.0 million.

The Series A Convertible Preferred Stock Purchase Agreement provided that, upon the fulfillment of certain conditions, each investor would purchase its pro rata portion of the shares to be issued in additional Series A Convertible Preferred Stock closings. Further, the Company agreed to sell, and issue said shares of Series A Convertible Preferred Stock on the same terms as the first tranche in the Purchase Agreement. The Company did not separately account for tranche purchase rights described above as they were not freestanding from the associated shares of convertible preferred stock.

In June 2023, the Company amended and restated its certificate of incorporation to, among other things, increase the authorized number of shares of the Company's convertible preferred stock to 196.7 million shares, of which 121.7 million shares are designated as Series B Convertible Preferred Stock, and to establish the rights, preferences, privileges and restrictions of the Series B Convertible Preferred Stock.

In June 2023, the Company entered into a Series B Convertible Preferred Stock financing arrangement in which 121,657,452 shares of Series B Convertible Preferred Stock were authorized to be issued at an issuance price of $1.23297 per share over two tranches, for total proceeds of up to $150.0 million. In June 2023 and July 2023, the Company issued an aggregate of approximately 60.8 million shares of Series B Convertible Preferred Stock at an issuance price of $1.23297 per share for net proceeds of $74.5 million related to the first tranche, with a potential second tranche of additional funding for up to $75.0 million based on approval of the Board of Directors and consent of the majority of the holders of the then-outstanding Series B Convertible Preferred Stock. The Series B Convertible Preferred Stock Purchase Agreement provides that, upon the fulfillment of certain conditions, each investor will purchase its pro rata portion of the shares to be issued in additional Series B Convertible Preferred Stock closings. Further, the Company agreed to sell, and issue said shares of Series B Convertible Preferred Stock on the same terms as the first tranche in the Purchase Agreement. The Company did not separately account for tranche purchase rights described above as they were not freestanding from the associated shares of convertible preferred stock.

Upon issuance of the Series B Convertible Preferred Stock, the Company also amended the Series A Convertible Preferred Stock agreement to cancel the remaining 25.0 million unissued shares of Series A Convertible Preferred Stock originally authorized under the agreement.

In May 2024, the Company executed the second tranche of the Series B Convertible Preferred Stock financing arrangement and issued the remaining approximately 60.8 million shares of Series B Convertible Preferred Stock for net proceeds of $74.9 million.

The rights, privileges, and preferences of the Series A and Series B Convertible Preferred Stock (together, the "Convertible Preferred Stock") are as follows:

Redemption

The Convertible Preferred Stock does not have redemption rights, except for the contingent redemption upon the occurrence of a Deemed Liquidation Event.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

Conversion

Each share of the Convertible Preferred Stock is initially convertible, at the option of the holder at any time after all authorized shares of the Convertible Preferred Stock have been issued or if otherwise approved by the holders representing at least a majority of the then outstanding shares of the Convertible Preferred Stock, including at least one holder that, together with its affiliates, holds only shares of Series B Convertible Preferred Stock and is a major investor, as defined in the Company's amended and restated investors' rights agreement (the "Required Vote"), into shares of common stock as determined by dividing the original issue price by the conversion price in effect at the time of conversion. The Series A Convertible Preferred Stock conversion price is initially $1.00, and the Series B Convertible Preferred Stock conversion price is initially $1.23297. The conversion prices are subject to adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Convertible Preferred Stock. The conversion prices are subject to adjustment in the event the Company issues additional shares of common stock without consideration or for a consideration per share less than the conversion price in effect prior to such issuance, unless the Required Vote determines that no such adjustment shall be made to the conversion price.

Special mandatory conversion will occur if a convertible preferred stockholder fails to purchase their agreed upon share, as originally allocated to such holder in the purchase agreement, in additional closings of the Convertible Preferred Stock as defined in the purchase agreement, and such failure is not cured as specified in the purchase agreement following receipt of the subsequent closing notification. Holders of Series B Convertible Preferred Stock have the option to waive the special mandatory conversion as specified in the purchase agreement. Upon such event, each share of the Convertible Preferred Stock held by such holder will be automatically converted into that number of shares of common stock equal to 10% of the original issue price divided by the conversion price in effect.

Mandatory conversion of all outstanding shares of the Convertible Preferred Stock at the then effective conversion rate will also occur automatically upon (i) consent of holders representing the Required Vote or (ii) the closing of the sale of shares of common stock to the public at a price of at least $1.849455 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the common stock), in a firm commitment underwritten public offering resulting in at least $50.0 million in gross proceeds to the Company, after deducting underwriting discounts and commissions, and in connection with such offering the common stock is listed for trading on the Nasdaq, the New York Stock Exchange or another exchange approved by the board of directors, including the approval of at least a majority of the Convertible Preferred Stock directors.

Dividends

The Company shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Company, other than dividends on shares of common stock payable in shares of common stock, unless the holders of the Convertible Preferred Stock first receive, or simultaneously receive, a dividend on outstanding shares of the Convertible Preferred Stock in an amount at least equal to the dividend payable based on the number of shares of common stock at the then conversion rate, such that the calculation should result in the highest preferred stock dividend. The board of directors has not declared any dividends to-date.

Voting and Board Representation

Each holder of outstanding shares of the Convertible Preferred Stock is entitled to one vote for each share of common stock into which such shares of preferred stock are convertible and shall vote together with the holders of common stock as a single class and on an as-converted to common stock basis, except as provided by law or by the other provisions of the Company's certificate of incorporation.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

The holders of shares of Series A Convertible Preferred Stock, exclusively and as a separate class, are entitled to elect three directors of the Company. The holders of shares of Series B Convertible Preferred Stock, exclusively and as a separate class, are entitled to elect one director of the Company. The holders of record of the shares of common stock and any other class or series of voting stock (including the Convertible Preferred Stock), as a single class, are entitled to elect the remaining directors. The size of the board shall be set and remain at seven directors.

Protective Provisions

At any time when shares of the Convertible Preferred Stock are outstanding, the Company shall first obtain the approval of the Required Vote, voting separately as a class, with respect to the following actions: (i) consummation of a liquidation, dissolution or winding up of the Company, or effect any merger, acquisition or consolidation or any other deemed liquidation event, (ii) amend, alter or repeal any provision of the Company's certificate of incorporation or bylaws, (iii) create, authorize, issue or obligate the Company to issue shares of any equity security or increase the authorized number of shares of the Convertible Preferred Stock or of any additional class or series of stock unless it ranks junior to the Convertible Preferred Stock, (iv) reclassify, alter or amend any existing security of the Company that is pari passu with the Convertible Preferred Stock, or is junior with the Convertible Preferred Stock , in respect of the distribution of assets on the liquidation, dissolution or winding up of the Company, the payment of dividends or rights of redemption, if such reclassification alteration or amendment would render such other security senior to the Convertible Preferred Stock, or in the case of a previously junior security would render such security senior to or pari passu with the Convertible Preferred Stock, (v) pay or declare any dividend, other than dividends on the Convertible Preferred Stock, or make any distribution on any shares of capital stock prior to the Convertible Preferred Stock, other than common stock or options to acquire common stock repurchased from former employees or consultants in connection with the cessation of their employment/services, pursuant to the provisions of existing plans or agreements, (vi) create, adopt, amend, terminate or repeal any equity or equity-linked compensation plan, (vii) increase or decrease the authorized number of directors constituting the Board of Directors, change the number of votes entitled to be cast by any director or directors on any matter, or adopt any provision inconsistent with Article Sixth; (viii) create or hold (or permit any subsidiary to create, or authorize the creation of, or issue or obligate itself to issue) any shares of capital stock in any subsidiary that is not a wholly-owned subsidiary of the Corporation, or sell, lease, transfer, exclusively license or otherwise dispose of any direct or indirect subsidiary capital stock or all or substantially all of any direct or indirect subsidiary assets; or (ix) sell, assign, license, pledge or encumber material technology or intellectual property, or enter into or grant any royalty streams related thereto, other than licenses granted in the ordinary course of business.

Liquidation Preference

In the event of any voluntary or involuntary liquidation, dissolution or winding up, or in the event of a deemed liquidation event of the Company, the holders of shares of the Convertible Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Company available for distribution to its stockholders, or out of the consideration payable to stockholders, as applicable, before any payment shall be made to the holders of common stock, an amount per share equal to the greater of (i) the original issue price, plus any dividends declared but unpaid, or (ii) such amount per share as would have been payable had all shares of the Convertible Preferred Stock been converted into common stock immediately prior to such event. If, upon the occurrence of such event, the assets of the Company available for distribution to its stockholders are insufficient to pay the holders of the Convertible Preferred Stock the full amount to which they are entitled, the holders of the Convertible Preferred Stock shall share ratably in any distribution of the assets available for distribution.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

Classification

The Company has classified the Convertible Preferred Stock outside of permanent equity on the balance sheet as these shares can be redeemed upon the occurrence of certain change in control events that are outside of the Company's control, including liquidation, sale or transfer of the Company. The Company has not adjusted the carrying values of the convertible preferred stock to the liquidation preferences of such shares because it is uncertain whether or when an event would occur that would obligate the Company to pay the liquidation preferences to holders of shares of convertible preferred stock, and at the balance sheet dates these circumstances were not probable. Subsequent adjustments to the carrying values of the liquidation preferences will be made only when it becomes probable that such a liquidation event will occur. As of December 31, 2022 and 2023, it was not probable that such a redemption would occur.

9. Common Stock

As of December 31, 2022, the Company was authorized to issue 150.0 million shares of $0.001 par value common stock. In June 2023, the Company amended and restated its certificate of incorporation to, among other things, increase the authorized number of shares of common stock of the Company to approximately 260.6 million shares. As of December 31, 2023, the Company was authorized to issue approximately 260.6 million shares of $0.001 par value common stock.

The holders of common stock are entitled to dividends when and if declared by the board of directors, subject to the preferences applicable to outstanding shares of the Convertible Preferred Stock. The board of directors has not declared any dividends and the Company has not paid any dividends. The holders of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders.

The Company reserved the following shares of common stock, on an as-converted basis, for future issuance:

	As of December 31,	
	2022	2023
Series A Convertible Preferred Stock	100,000,000	75,000,000
Series B Convertible Preferred Stock	—	121,657,452
Restricted stock outstanding under 2021 Plan	10,230,942	6,666,362
Restricted stock outstanding outside of 2021 Plan	2,922,712	1,961,671
Options issued and outstanding under 2021 Plan	385,000	9,672,202
Shares reserved for future grants under 2021 Plan	7,018,021	14,072,893
Total	120,556,675	229,030,580

10. Stock-Based Compensation

2021 Stock Option and Grant Plan

In 2021, the Company adopted the Septerna, Inc. 2021 Stock Option and Grant Plan (the "2021 Plan"), which authorizes the Company to grant incentive stock options, non-qualified stock options, restricted stock awards, unrestricted stock awards and restricted stock units, to officers, employees, directors, consultants, or other key persons of the Company. The terms of the stock option and restricted stock agreements, including vesting requirements, are determined by the Board of Directors, subject to the provisions of the 2021 Plan. The exercise price of stock options shall not be less than the estimated fair value of the underlying common stock on the date of grant. Stock option awards expire 10 years from the grant date, or as otherwise determined by the

SEPTERNA, INC.

Notes to Financial Statements—(continued)

Board of Directors, or in the case of incentive stock options granted to a 10% stockholders, the term is no more than 5 years from the grant date. Additionally, the Company granted and issued restricted stock awards and allowed the recipients to purchase the unvested restricted stock awards at par value per share. The shares issued for unvested restricted stock awards under the 2021 Plan are subject to repurchase by the Company at the original issuance price in the event of the holder's termination of its relationship with the Company. Consideration received for shares associated with the unvested restricted stock awards is initially recorded as a liability and subsequently reclassified into stockholders' deficit as the related awards vest over the requisite service period.

The 2021 Plan initially authorized a total of approximately 20.3 million shares reserved for future issuance. In June 2023, the Company amended and restated its certificate of incorporation to, among other things, increase the shares reserved for issuance under the 2021 Plan to approximately 36.5 million shares. Approximately 7.0 million and 14.1 million shares remained available for future issuance under the 2021 Plan as of December 31, 2022 and 2023, respectively.

Restricted Stock Awards

The following summarizes restricted stock award activity under the 2021 Plan:

	Number of Shares Outstanding	Weighted-Average Grant Date Fair Value Per Share
Balance at December 31, 2022	10,230,942	$ 0.28
Restricted stock awards vested	(3,446,663)	0.29
Restricted stock awards repurchased	(117,917)	0.25
Balance at December 31, 2023	6,666,362	0.27

In addition to grants under the 2021 Plan, the Company has also granted restricted stock awards outside of plan, under the terms of restricted stock purchase agreements and subscription agreements, and unvested shares are subject to repurchase by the Company upon the holder's termination of its relationship with the Company at the original purchase price. Consideration received for shares associated with the unvested restricted stock awards is initially recorded as a liability and subsequently reclassified into stockholders' deficit as the related awards vest. The following summarizes restricted stock award activity outside of the 2021 Plan:

	Number of Shares Outstanding	Weighted-Average Grant Date Fair Value Per Share
Balance at December 31, 2022	2,922,712	$ 0.44
Restricted stock awards vested	(961,041)	0.44
Balance at December 31, 2023	1,961,671	0.44

The restricted stock awards generally include a service condition for vesting and vest over four years with a one-year cliff vesting and pro-rata monthly vesting thereafter, but some awards vest over different time periods. In addition, some restricted stock awards include vesting criteria subject to the achievement of performance-based conditions in addition to service conditions, for which the Company periodically assesses the probability that the performance criteria will be met and only recognizes stock-based compensation expense related to these awards when achievement of the performance criteria becomes probable. The total fair value of shares vested during the year ended December 31, 2023 was $1.4 million.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

As of December 31, 2022 and 2023, $0.1 million and $0.1 million in other liabilities on the Company's balance sheets was related to the unvested shares subject to repurchase of approximately 13.2 million and 8.6 million shares, respectively.

Stock Options

The following summarizes stock option activity under the 2021 Plan:

	Options Outstanding			
	Total Options Outstanding	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2022	385,000	$ 0.18	9.95	$ —
Granted	9,287,202	0.31		
Outstanding as of December 31, 2023	9,672,202	0.30	9.78	2,287
Exercisable as of December 31, 2023	708,138	0.28	9.63	181
Vested and expected to vest as of December 31, 2023	9,672,202	0.30	9.78	2,287

Stock options include a service condition for vesting and most stock options vest over four years with a one-year cliff vesting and pro-rata monthly vesting thereafter. The aggregate intrinsic values of options outstanding, exercisable, vested and expected to vest were calculated as the difference between the exercise price of the options and the estimated fair value of the Company's common stock, as determined by the Board of Directors, as of December 31, 2023.

The aggregate fair value of options that vested for the year ended December 31, 2023 was $0.2 million. The options granted in the year ended December 31, 2023 had a weighted-average per share grant-date fair value of $0.35 and a total grant date fair value of $3.2 million.

Stock Option Valuation

The weighted-average assumptions used to value employee and non-employee stock option awards granted under the 2021 Plan during the years ended December 31, 2022 and 2023, using the Black Scholes option pricing model, were as follows:

	Years Ended December 31,	
	2022	2023
Fair value of common stock	$ 0.13	$ 0.35
Risk-free interest rate	3.64%	4.56%
Expected volatility	89.2%	86.2%
Expected term (years)	5.83	5.90
Expected dividend yield	— %	— %

In determining the fair value of the options granted, the Company uses the Black Scholes option pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

Fair Value of Common Stock — Given the absence of a public trading market for the Company's common stock, the Board of Directors, with input from management, determine the fair value of common stock by considering a number of objective and subjective factors including (i) valuations performed by independent third parties, (ii) important developments in the Company's operations, (iii) the rights, preferences, and privileges of the Company's preferred stock relative to those of the Company's common stock, (iv) actual operating results and financial performance, including the Company's levels of available capital resources, (v) the conditions in the capital markets, biotechnology industry and the U.S. economy in general, (vi) the stock price performance and volatility of comparable public companies and (vii) the lack of marketability of the Company's common stock, among other factors.

Expected Term — The expected term represents the period that the Company's stock options granted are expected to be outstanding and is determined using the simplified method (based on the mid-point between the vesting date and the end of the contractual term). The Company has very limited historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for its stock option grants. The Company will continue to apply this process until a sufficient amount of historical information regarding employee exercise patterns and post-vesting employment termination behavior becomes available.

Expected Volatility — Since the Company is not a public company and has no trading history for its common stock, the expected volatility was estimated based on the average volatility for comparable publicly traded biopharmaceutical companies over a period, where available, equal to the expected term of the stock option grants. The comparable companies were chosen based on their similar size, life cycle stage and area of specialty.

Risk-free Interest Rate — The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of the options.

Expected Dividend — The Company has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

Stock-based Compensation Expense

Stock-based compensation expense for restricted stock awards and stock options recognized in the Company's statements of operations and comprehensive (loss) income is presented as follows (in thousands):

	Years Ended December 31,	
	2022	2023
Research and development expense	$ 848	$ 887
General and administrative expense	672	733
Total stock-based compensation expense	$ 1,520	$ 1,620

As of December 31, 2023, total unrecognized stock-based compensation expense related to unvested restricted stock awards and unvested stock options was $5.2 million, which is expected to be recognized over a weighted-average period of 2.9 years. As of December 31, 2023, total unrecognized stock-based compensation expense related to unvested restricted stock awards subject to performance conditions, which were improbable of achievement, was $0.3 million.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

11. Income Taxes

The components of the provision for income taxes were as follows for the years ended December 31, 2022 and 2023 (in thousands):

	Years Ended December 31,	
	2022	2023
Current:		
Federal	$ —	$ 200
State	—	—
Total current	—	200
Deferred:		
Federal	—	491
State	—	—
Total deferred	—	491
Provision for income taxes	$ —	$ 691

For the year ended December 31, 2022, the Company had no income tax expense due to operating losses incurred. For the year ended December 31, 2023, the Company recorded income tax expense of $0.7 million.

A reconciliation of the Company's effective tax rate to the statutory U.S. federal rate is as follows:

	Years Ended December 31,	
	2022	2023
U.S. federal taxes at statutory rate	21.0%	21.0%
State tax, net of federal benefit	1.6	(34.2)
Stock compensation	(1.2)	6.9
Tax credits	0.7	(19.1)
Change in valuation allowance	(18.1)	39.5
State NOL reserve	(4.0)	—
Other	—	0.1
Total effective income tax rate	— %	14.2%

SEPTERNA, INC.

Notes to Financial Statements—(continued)

Deferred income taxes reflect the net tax effects of loss and credit carryforwards and temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The types of temporary differences that give rise to significant portions of the Company's deferred income tax assets and liabilities are set out below (in thousands):

	Years Ended December 31,	
	2022	2023
Net operating loss carryforwards	$ 4,819	$ 3,940
Research and development credits	1,235	2,338
Lease liability	149	3,516
Stock-based compensation	—	9
Accrued liabilities	359	841
Sec 174 capitalized research and development costs	3,884	11,313
Total deferred tax assets before valuation allowance	10,446	21,957
Valuation allowance	(10,205)	(12,127)
Total deferred tax assets	241	9,830
Property and equipment	(94)	(521)
Right-of-use assets	(147)	(3,504)
Sale of non-financial asset	—	(6,296)
Total deferred tax liabilities	(241)	(10,321)
Net deferred income tax liabilities	$ —	$ (491)

The Company has established a valuation allowance for the amount of deferred tax assets that are not more likely than not be realized. Management considered all available evidence, both positive and negative, including but not limited to the Company's historical operating results, income or loss in recent periods, cumulative losses in recent years, forecasted earnings, future taxable income, and significant risk and uncertainty related to forecasts, and concluded the deferred tax assets are not more likely than not to be realized. The net change in the total valuation allowance for the years ended December 31, 2022 and 2023 was an increase of $10.2 million and $1.9 million, respectively.

As of December 31, 2023, the Company had $14.6 million of federal net operating loss carryforwards and $28.9 million of state net operating loss carryforwards, available to reduce future taxable income. Of the federal net operating loss carryforwards, $14.6 million will carryforward indefinitely. The state net operating loss carryforwards will begin to expire in 2041, if not utilized.

As of December 31, 2023, the Company had federal research and development tax credits carryforward of $2.0 million and state research and development tax credits carryforward of $1.8 million, available to reduce future income taxes. The federal research and development tax credits will begin to expire in 2041 if not utilized. The state research and development tax credits have no expiration date.

Internal Revenue Code section 382 ("IRC Section 382") places a limitation (the "Section 382 Limitation") on the amount of taxable income that can be offset by net operating loss ("NOL") carryforwards after a change in control (generally greater than 50% change in ownership) of a loss corporation. California has similar rules. When an ownership change occurs, IRC Section 382 limits the use of NOLs and credits in subsequent periods based on the annual 382 limitations. The annual 382 limitations may limit the full use of available tax attributes in one year but the identified ownership changes may not result in expiration of tax attributes for use prior to

expiration of their respective carryforward periods. The Company performed a Section 382 analysis through the year ended December 31, 2023 and determined there were ownership changes in 2021 and 2023 that resulted in 382 limitations limiting the full use of carryover attributes in 2023. The ownership changes did not result in a reduction of its net operating loss or in its research and development credit carryforwards expiring unused. Accordingly, none of the tax attributes have been reduced but limited the full use in 2023. If additional ownership change occurs, the utilization of net operating loss and credit carryforwards could be significantly reduced.

A reconciliation of the beginning and ending unrecognized tax benefit amount is as follows (in thousands):

	Years Ended December 31,	
	2022	2023
Balance at the beginning of the year	$ —	$ 1,828
Additions based on tax positions related to current year	424	728
Adjustment based on tax positions related to prior years	1,404	(27)
Balance at end of the year	$ 1,828	$ 2,529

The reversal of the uncertain tax benefits would not impact the Company's effective tax rate as the Company continues to maintain a full valuation allowance against its deferred tax assets.

The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. During the years ended December 31, 2022 and 2023, the Company did not recognize accrued interest and penalties related to unrecognized tax benefits.

The Company files income taxes in the U.S. federal jurisdiction, the state of California and various other U.S. states. The Company is not currently under examination by income tax authorities in federal, state or other jurisdictions. All income tax returns will remain open for examination by the federal, state and foreign authorities for three or four years, from the date of utilization of any NOLs or credits.

12. Related Parties

Third Rock Ventures

During the year ended December 31, 2022 and 2021, the Company issued a total of approximately 41.3 million shares of its Series A Convertible Preferred Stock to Third Rock Ventures VI, L.P. ("TRV"), a holder of more than 5% of the Company's outstanding capital stock, during the initial and second tranche closings, for cash proceeds of approximately $26.6 million and upon conversion of outstanding convertible promissory notes of $14.7 million (see Note 8).

During the year ended December 31, 2023, the Company issued a total of approximately 12.4 million shares of its Series B Convertible Preferred Stock to TRV during the first tranche closing, for cash proceeds of $15.2 million.

In August 2021, the Company entered into a service agreement with TRV (the "TRV service agreement") under which TRV provides consulting services to the Company. For the years ended December 31, 2022 and 2023, the Company recorded expense of $1.3 million and $0.3 million, respectively, for such services as general

and administrative expenses in the Company's statements of operations and comprehensive (loss) income. As of December 31, 2022 and 2023, outstanding accounts payable to TRV were $0.1 million and $0.1 million, respectively.

The Company's interim Chief Medical Officer, and also a member of the Company's board of directors, was designated to the Company's board of directors by TRV and is affiliated with TRV. He did not receive any cash compensation from the Company for his service as its interim Chief Medical Officer, as his services were provided to the Company through the TRV service agreement. Of the total fees the Company incurred under the TRV service agreement for the years ended December 31, 2022 and 2023, $0.3 million and $0.2 million, respectively, were attributed to services provided as the Company's interim Chief Medical Officer. Additionally, as compensation for his services as the Company's interim Chief Medical Officer, the Company granted him options to purchase 100,000 shares of the Company's common stock during the year ended December 31, 2022, and 230,000 shares during the year ended December 31, 2023, at exercise prices of $0.18 and $0.32 per share, respectively.

RA Capital

During the year ended December 31, 2023, the Company issued a total of approximately 12.2 million shares of its Series B Convertible Preferred Stock to entities affiliated with RA Capital Management, L.P., which collectively hold more than 5% of the Company's outstanding capital stock, during the first tranche closing, for cash proceeds of $15.0 million.

Samsara BioCapital

During the year ended December 31, 2023, the Company issued a total of approximately 4.3 million shares of its Series B Convertible Preferred Stock to Samsara BioCapital, L.P., a holder of more than 5% of the Company's outstanding capital stock, during the first tranche closing, for cash proceeds of $5.2 million.

SEPTERNA, INC.

Notes to Financial Statements—(continued)

13. Net (Loss) Income Per Share

The following table sets forth the computation of the basic and diluted net (loss) income per share (in thousands, except for share and per share data):

	Years Ended December 31,	
	2022	2023
Numerator, basic:		
Net (loss) income	$ (27,676)	$ 4,180
Allocation of earnings to participating preferred stockholders	—	(3,613)
Net (loss) income applicable to common stockholders	$ (27,676)	$ 567
Denominator, basic:		
Weighted-average shares outstanding used to compute net (loss) income per common share, basic	12,372,127	16,606,017
Numerator, diluted:		
Net (loss) income	$ (27,676)	$ 4,180
Allocation of earnings to participating preferred stockholders	—	(3,551)
Net (loss) income applicable to common stockholders	$ (27,676)	$ 629
Denominator, diluted:		
Weighted-average shares outstanding used to compute net (loss) income per common share, basic	12,372,127	16,606,017
Common stock options	—	126,917
Unvested restricted stock	—	2,013,124
Weighted-average shares outstanding used to compute net (loss) income per common share, diluted	12,372,127	18,746,058
Net (loss) income per share, basic	$ (2.24)	$ 0.03
Net (loss) income per share, diluted	$ (2.24)	$ 0.03

Potentially dilutive securities not included in the calculation of diluted net (loss) income per share because to do so would be anti-dilutive were as follows (in common stock equivalent shares):

	Years Ended December 31,	
	2022	2023
Outstanding stock options	385,000	1,705,617
Unvested restricted stock subject to repurchase	12,501,986	2,933,158
Total antidilutive securities	12,886,986	4,638,775

SEPTERNA, INC.

Notes to Financial Statements—(continued)

14. Employee Retirement Benefit Plan

The Company maintains a 401(k) retirement savings plan (the "401(k) Plan") for its employees. The 401(k) Plan allows eligible employees to make contributions up to the maximum allowable by the Internal Revenue Service ("IRS"). For the year ended December 31, 2023, the Company made matching contributions of and recorded contribution expenses of $0.1 million. For the year ended December 31, 2022, the Company did not make any matching contributions.

15. Subsequent Events

The Company evaluated all subsequent events for recognition and measurement purposes through August 2, 2024, the date the financial statements were available for issuance. The Company has concluded that no subsequent events have occurred that require disclosure, except as described below.

Subsequent Financings

In May 2024, the Company executed the second tranche of the Series B Convertible Preferred Stock financing arrangement and issued the remaining approximately 60.8 million shares of Series B Convertible Preferred Stock, for net proceeds of $74.9 million.

Executive Officer and Director Equity Awards Modification

In May 2024, the Company's board of directors modified the terms of stock option awards for 7.2 million shares of the Company's common stock granted during the year ended December 31, 2023, stock option awards for 4.1 million shares of the Company's common stock granted in 2024 and restricted stock awards for 7.7 million shares granted during the years ended December 31, 2022 and 2021 to certain executive officers and members of the Company's board of directors. Under the modified terms, accelerated vesting provisions were added associated with certain change of control events.

Shares

Common Stock

Prospectus

J.P. Morgan **TD Cowen** **Cantor** **Wells Fargo Securities**

, 2024

Through and including , 2024 (the 25th day after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Except where the context otherwise requires or where otherwise indicated, the terms "Septerna," "we," "us," "our," "our company," "the company," "registrant" and "our business" refer to Septerna, Inc.

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth all expenses to be paid by us, other than underwriting discounts and commissions, in connection with this offering. All amounts shown are estimates except for the Securities and Exchange Commission (SEC) registration fee, the Financial Industry Regulatory Authority, Inc. (FINRA) filing fee and the Nasdaq Global Market (Nasdaq) listing fee.

	Amount to Be Paid
SEC registration fee	$ *
FINRA filing fee	*
Nasdaq Global Market listing fee	*
Printing and mailing expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous	*
Total	$ *

* To be provided by amendment.

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law (DGCL) authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines, and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We will adopt provisions in our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, and the amended and restated bylaws, which will become effective upon the effectiveness of the registration statement of which this prospectus forms a part, that limit or eliminate the personal liability of our directors and officers to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, our directors and officers will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as directors or officers, except for liability for:

- any breach of their duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

- for our directors, any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions;
- any transaction from which they derived an improper personal benefit; or
- for our officers, any derivative action by or in the right of the corporation.

These limitations of liability do not alter director and officer liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our amended and restated bylaws will provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys' fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We have entered into indemnification agreements with each of our directors and intend to enter into such agreements with our executive officers. These agreements provide that we will indemnify each of our directors, our executive officers and, at times, their affiliates to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of us or in furtherance of our rights. Additionally, certain of our directors or officers may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's or officer's services as a director referenced herein. Nonetheless, we have agreed in the indemnification agreements that our obligations to those same directors or officers are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We also maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act of 1933, as amended (Securities Act).

The underwriting agreement filed as Exhibit 1.1 to this registration statement provides for indemnification of us and our directors and officers by the underwriters against certain liabilities under the Securities Act and the Securities Exchange Act of 1934, as amended.

Item 15. Recent Sales of Unregistered Securities.

Set forth below is information regarding unregistered securities issued by us since 2021 to the date of this registration statement. Also included is the consideration received by us for such securities and information relating to the section of the Securities Act, or rule of the SEC, under which exemption from registration was claimed.

(a) Convertible Promissory Notes

From January 2020 through September 2021, we issued convertible promissory notes to Third Rock Ventures V, L.P. in an aggregate principal amount of $14.0 million. Each of the convertible promissory notes accrued interest at a rate of 6% per year and converted into shares of our Series A convertible preferred stock in November 2021, as further described below.

(b) Convertible Preferred Stock Issuances

From November 2021 through November 2022, we issued and sold an aggregate of 75,000,000 shares of our Series A convertible preferred stock in two closings, at a purchase price of $1.00 per share, for an aggregate purchase price of $75.0 million. Included in this amount was $14.7 million of the then outstanding principal and interest on convertible promissory notes issued to Third Rock Ventures V, L.P. in 2020 and 2021, all of which converted into shares of our Series A convertible preferred stock in this financing in accordance with their terms.

From June 2023 through May 2024, we issued and sold an aggregate of 121,657,452 shares of our Series B convertible preferred stock at a purchase price of $1.23297 per share for an aggregate purchase price of $150.0 million in multiple closings.

The offers, sales and issuances of the securities described above were deemed to be exempt under Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D under the Securities Act as a transaction by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act and had adequate access, through employment, business or other relationships, to information about us. No underwriters were involved in these transactions.

(c) Grants and Exercises of Stock Options and Restricted Common Stock

Through , 2024, we have granted stock options to purchase an aggregate of shares of our common stock, with exercise prices ranging from $ to $ per share, to our employees, directors and consultants pursuant to our 2021 Stock Option and Grant Plan, as amended from time to time (2021 Plan).

Through , 2024, we have granted an aggregate of shares of restricted common stock to our employees, consultants and other service providers under the 2021 Plan and an additional shares to our advisors and co-founders outside of the 2021 Plan.

The issuances of the securities under the 2021 Plan described above were deemed to be exempt from registration under Rule 701 promulgated under the Securities Act as transactions under compensatory benefit plans and contracts relating to compensation, or under Section 4(a)(2) of the Securities Act as a transaction by an issuer not involving a public offering. The recipients of such securities were our directors, employees or bona fide consultants and received the securities under our equity incentive plans. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about us.

The issuance of the securities described above to advisors and co-founders outside of the 2021 Plan were deemed exempt from registration pursuant to Section 4(a)(2) of the Securities Act as transactions by an issuer not involving a public offering.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits

Exhibit Number	Description
1.1*	Form of Underwriting Agreement
3.1*	Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect

Exhibit Number	Description
3.2*	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect immediately prior to the completion of this offering
3.3*	Bylaws of the Registrant, as currently in effect
3.4*	Form of Amended and Restated Bylaws of the Registrant, to be in effect as of the effectiveness of the registration statement of which this prospectus forms a part
4.1*+	Amended and Restated Investors' Rights Agreement, by and among the Registrant and certain of its stockholders, dated as of June 28, 2023
4.2*	Specimen Common Stock Certificate
5.1*	Opinion of Goodwin Procter LLP
10.1*#	2021 Stock Option and Grant Plan, as amended, and forms of award agreements thereunder
10.2*#	2024 Stock Option and Grant Plan and forms of award agreements thereunder
10.3*#	2024 Employee Stock Purchase Plan
10.4*#	Form of Indemnification Agreement, by and between the Registrant and each of its directors
10.5*#	Form of Indemnification Agreement, by and between the Registrant and each of its executive officers
10.6*#	Non-Employee Director Compensation Policy
10.7*#	Employment Agreement, by and between the Registrant and Jeffrey Finer, to be in effect upon the completion of this offering
10.8*#	Employment Agreement, by and between the Registrant and Liz Bhatt, to be in effect upon the completion of this offering
10.9*#	Employment Agreement, by and between the Registrant and Samira Shaikhly, to be in effect upon the completion of this offering
10.10*#	Employment Agreement, by and between the Registrant and Uwe Klein, to be in effect upon the completion of this offering
10.11*#	Employment Agreement, by and between the Registrant and Daniel Long, to be in effect upon the completion of this offering
10.12*	Lease Agreement, by and between the Registrant and Britannia Pointe Grant Limited Partnership, dated as of April 20, 2021, as amended by the First Amendment to Lease Agreement dated as of September 14, 2022, Second Amendment to Lease Agreement dated as of September 23, 2022, Third Amendment to Lease Agreement dated as of December 22, 2022, and Fourth Amendment to Lease Agreement dated as of December 12, 2023
10.13*	Service Agreement, by and between the Registrant and Third Rock Ventures, LLC, dated as of August 25, 2021
21.1*	Subsidiaries of the Registrant
23.1*	Consent of Independent Registered Public Accounting Firm
23.2*	Consent of Goodwin Procter 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 any compensatory plan, contract or arrangement

(b) Financial Statements Schedules

None.

Item 17. Undertakings.

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters 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 SEC 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 registrant hereby undertakes that:

(a) For purposes of determining any liability under the Securities Act, the information omitted from a form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in the 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.

(b) 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 of 1933, as amended, the registrant has duly caused this registration statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of South San Francisco, California, on the day of , 2024.

SEPTERNA, INC.

By: _____
Name: Jeffrey Finer, M.D., Ph.D.
Title: President, Chief Executive Officer and Director

POWER OF ATTORNEY AND SIGNATURES

Each individual whose signature appears below hereby constitutes and appoints Jeffrey Finer, M.D., Ph.D. and Liz Bhatt, M.S., M.B.A., and each of them singly (with full power to each of them to act alone) as such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for such person in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement (or any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended), and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission granting unto each said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement and power of attorney has been signed by the following person in the capacities and on the date indicated.

Name	Title	Date
Jeffrey Finer, M.D., Ph.D.	President and Chief Executive Officer (principal executive officer)	, 2024
Liz Bhatt, M.S., M.B.A.	Chief Operating Officer (principal financial officer and principal accounting officer)	, 2024
Jeffrey Tong, Ph.D.	Chairman and Director	, 2024
Abraham Bassan, M.S.	Director	, 2024
Bernard Coulie, M.D., Ph.D., M.B.A.	Director	, 2024

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Name	Title	Date
Alan Ezekowitz, M.D., D.Phil.	Director	, 2024
Shalini Sharp, M.B.A.	Director	, 2024
Jake Simson, Ph.D.	Director	, 2024