As filed with the Securities and Exchange Commission on September 11, 2023.

Registration No. 333-274229

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

Amendment No. 1
to
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

NEUMORA THERAPEUTICS, INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	2834	84-4367680
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

490 Arsenal Way, Suite 200
Watertown, Massachusetts 02472
(857) 760-0900
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Henry O. Gosebruch
Chief Executive Officer
Neumora Therapeutics, Inc.
490 Arsenal Way, Suite 200
Watertown, Massachusetts 02472
(857) 760-0900
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent For Service)

Copies to:

Phillip S. Stoup Shayne Kennedy Latham & Watkins LLP 505 Montgomery Street, Suite 2000 San Francisco, California 94111 (415) 391-0600	Joshua Pinto Chief Financial Officer Neumora Therapeutics, Inc. 490 Arsenal Way, Suite 200 Watertown, Massachusetts 02472 (857) 760-0900	Charles S. Kim Kristin VanderPas Dave Peinsipp Denny Won Cooley LLP 10265 Science Center Dr San Diego, California 92121 (858) 550-6000

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, 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 Exchange Act.

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 7(a)(2)(B) of the Securities Act. ☐

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

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

SUBJECT TO COMPLETION, DATED SEPTEMBER 11, 2023

14,710,000 Shares

Neumora

Common Stock

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

We are offering 14,710,000 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 $16.00 and $18.00 per share of common stock. We have applied to list our common stock on the Nasdaq Global Market under the symbol "NMRA," and this offering is contingent upon obtaining such approval.

We are an emerging growth company under the federal securities laws and, as such, 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 12.

	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 information regarding the estimated 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 2,206,500 shares of our common stock.

The underwriters expect to deliver the shares against payment in New York, New York on , 2023.

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

J.P. Morgan BofA Securities Stifel Guggenheim Securities RBC Capital Markets William Blair

, 2023

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We have not, and the underwriters have not, authorized anyone to provide you any information or to make any representations other than those contained in this prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. Neither we nor the underwriters take responsibility for, or provide any assurance as to the reliability of, any other information others may give you. This prospectus is an offer to sell only the shares offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of the 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 the possession or distribution of this prospectus or any free writing prospectus in connection with this offering in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States. See the section titled "Underwriting."

In this prospectus, “Neumora Therapeutics,” “Neumora,” the “company,” “we,” “us” and “our” refer to Neumora Therapeutics, Inc. and, where appropriate, our subsidiaries.

“NEUMORA,” the Neumora logos and other trade names, trademarks or service marks of Neumora appearing in this prospectus are the property of Neumora. Other trade names, trademarks or service marks appearing in this prospectus are the property of their respective holders. Solely for convenience, trade names, trademarks and service marks referred to in this prospectus appear without the ®, ™ and SM symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or that the applicable owner will not assert its rights, to these trade names, trademarks and service marks.

Through and including   , 2023 (the 25th day after the date of this prospectus), all dealers that buy, sell or trade shares of our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

PROSPECTUS SUMMARY

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

Overview

We are a clinical-stage biopharmaceutical company founded to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed. We have rapidly scaled our therapeutic pipeline, which currently consists of seven clinical and preclinical neuroscience programs that target novel mechanisms of action for a broad range of underserved neuropsychiatric disorders and neurodegenerative diseases. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which supports numerous anticipated data readouts. Our most advanced product candidate, navacaprant (NMRA-140), is a novel once-daily oral kappa opioid receptor (KOR) antagonist that is being developed for the treatment of major depressive disorder (MDD), which we believe has the potential to provide significant advantages relative to the standard of care, if approved. We are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD and anticipate releasing topline results for the KOASTAL-1 study in the second half of 2024.

Brain diseases collectively represent one of the largest areas of unmet medical need globally, affecting upwards of 1.5 billion patients. Despite the commercial success of historically approved drugs, the markets for many of the most prevalent brain disorders have been dominated by a single class of drugs, such as serotonin-targeting antidepressants for MDD, leaving patients with a high degree of unmet medical need given the lack of diverse treatment options and mechanisms of action. For example, there are currently over 21 million adults in the United States diagnosed with MDD, 85% of whom either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line selective serotonin reuptake inhibitors (SSRI)/serotonin and norepinephrine reuptake inhibitors (SNRI) and thus progress onto second-line treatment with another SSRI/SNRI. In addition, patients with common neuropsychiatric disorders and neurodegenerative diseases are heterogeneous, presenting diverse symptoms and multiple underlying disease drivers. Despite the inherent heterogeneity of these disorders, patients are generally diagnosed based on broad disease classifications defined by subjective clinical symptoms rather than by specific underlying genetic and biological mechanisms. As a result, clinical development in neuroscience to date has taken a "one-size-fits-all" approach, in contrast to other areas that have employed more of a targeted patient selection approach. From 2011 to 2020, clinical development success rates for new drug candidates that employed patient selection biomarkers were approximately 16% compared to approximately 8% for those without patient selection biomarkers according to the Biotechnology Innovation Organization (BIO); however, clinical success depends on a number of factors and employing a patient selection biomarker approach does not guarantee that our product candidates will be approved and commercialized. We believe the relative lack of progress and innovation within the broader central nervous system (CNS) therapeutic landscape is due in large part to an insufficient degree of focus on novel, potentially more therapeutically relevant targets implicated in CNS diseases and clinical development strategies that often yield inconclusive results due to the inherent heterogeneity known to occur in patient populations classified by broad symptomatic domains.

We founded Neumora to confront these challenges by taking a fundamentally different approach to the way treatments for brain diseases are developed. We are redefining neuroscience drug development by:

- ***Building a diversified neuroscience company at scale with a broad therapeutic pipeline and significant capital resources***: We have raised over $600 million in funding and purpose-built an industry-leading team of company builders and neuroscience drug developers. As a result, we have quickly scaled a broad therapeutic pipeline consisting of seven clinical and preclinical programs, which we aim to develop to meet unmet medical need across brain health disorders.

- ***Focusing on therapeutic candidates with novel mechanisms of action***: We have built a pipeline of seven clinical and preclinical programs that target novel mechanisms of action with the potential to provide new treatment options to patients that alleviate unmet medical need. Several of our programs target novel mechanisms of actions that have shown preclinical and clinical data from Neumora and other leading biopharmaceutical companies pursuing programs against the same target. For example, another KOR antagonist aticaprant (Janssen Pharmaceuticals) has demonstrated an improvement in depression and anhedonia in prior clinical trials and M4 muscarinic receptor-targeting compounds have demonstrated potential as an approach to treating schizophrenia in multiple, placebo-controlled clinical trials.

- ***Leveraging a precision neuroscience approach with the goal of maximizing the value of our programs***: To better understand the biological drivers of heterogeneous brain diseases and to identify targeted patient populations of interest, we have built our Precision Toolbox, which integrates a suite of translational and clinical tools with proprietary machine learning algorithms and methods, and incorporates insights from analyzing patient data. We believe our Precision Toolbox will enable us to execute potential strategies to gain confidence in a target or potential indication, help identify biomarkers, enroll the right patients in our clinical studies, optimize clinical trial designs and expand indication expansion opportunities; ultimately, supporting our goal of increasing the likelihood of matching the right drug for the right patient.

Our Pipeline

We have rapidly scaled our therapeutic pipeline through both business development activities and internal discovery capabilities. Our therapeutic pipeline is comprised of programs for neuropsychiatric disorders and neurodegenerative diseases, each targeting a novel mechanism of action that, where beneficial, we can leverage our precision neuroscience approach. As shown in the table below, our current pipeline comprises seven programs, three of which are expected to be in clinical development by year-end 2023 and four of which are in preclinical development. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which supports numerous anticipated data readouts, including receipt of topline data from our KOASTAL-1 study for navacaprant expected in the second half of 2024.

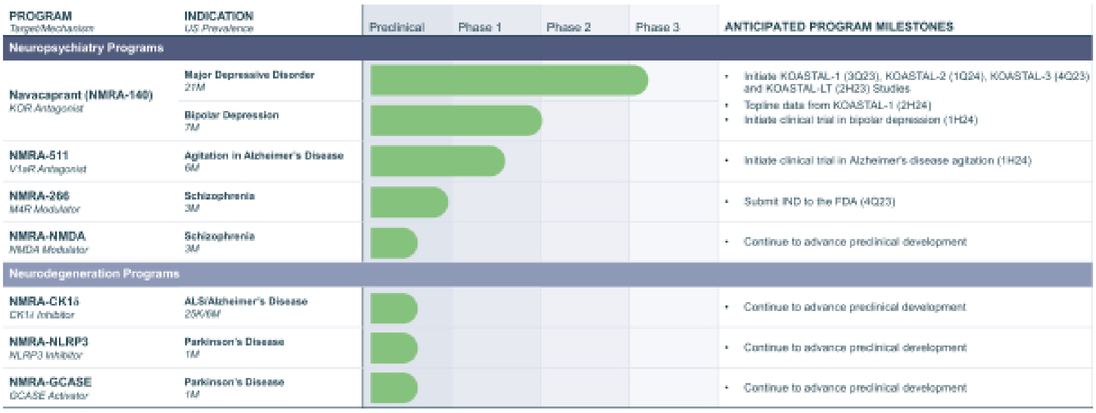


Figure 1: Neumora Pipeline

Navacaprant (NMRA-140) is a novel, oral once-daily, selective KOR antagonist in development for the monotherapy treatment of MDD, which is a chronic neuropsychiatric disorder with significant unmet medical need. There are currently over 21 million adults in the United States diagnosed with MDD, 85% of whom either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line SSRI/SNRI. We are developing navacaprant as a once-daily oral medication designed to modulate the dopamine and reward processing pathways that play an important role in the regulation of mood, cognition, reward and behavior. The KOR/dynorphin system is well-characterized and known to modulate depression, anhedonia and anxiety, and represents a novel approach to treating MDD and other major neuropsychiatric disorders. Following the completion of an End-of-Phase 2 meeting with the U.S. Food & Drug Administration (FDA) in June 2023, we are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD consisting of three efficacy studies: KOASTAL-1, KOASTAL-2 and KOASTAL-3. We anticipate releasing topline results for the KOASTAL-1 study in the second half of 2024. In addition, we intend to explore and evaluate the potential of navacaprant as treatment for other neuropsychiatric populations beyond MDD, including bipolar depression, schizophrenia, post-traumatic stress disorder, generalized anxiety disorder, ADHD, and substance use disorder. We plan to begin these efforts with a clinical trial in bipolar depression that we expect to initiate in the first half of 2024.

NMRA-511 is an investigational antagonist of the vasopressin 1a receptor (V1aR). Vasopressin plays a role in the regulation of aggression, affiliation, stress and anxiety response. Based on our preclinical findings in non-human primates as well as preclinical and clinical results from third parties, we believe V1aR has the potential to be a promising novel target for multiple neuropsychiatric disorders and neurodegenerative diseases across the spectrum of anxiety, aggression and stress. We are currently conducting a Phase 1 multiple ascending dose (MAD) clinical trial of NMRA-511 and plan to advance the program into a clinical trial in patients with agitation associated with dementia due to Alzheimer’s disease in the first half of 2024.

NMRA-266 is a positive allosteric modulator of the M4 muscarinic receptor (M4R) for the treatment of schizophrenia and other neuropsychiatric disorders. Our M4R-positive allosteric modulator program is designed to be highly selective for the M4 receptor subtype of the muscarinic receptor family. Muscarinic receptor-targeting compounds have demonstrated robust activity in third-party trials and could be a promising approach to treating schizophrenia (SCZ), with the potential to treat other neuropsychiatric disorders such as dementia-related psychosis and cognitive disorders, where innovation has been stagnant for decades. Selective M4R-positive allosteric modulators have the potential to deliver the antipsychotic efficacy associated with targeting this receptor subtype, while minimizing the side effects associated with current antipsychotics and other non-selective muscarinic agonists. NMRA-266 is in preclinical development and we anticipate submitting an IND to the FDA in the fourth quarter of 2023. We exclusively licensed certain intellectual property rights related to NMRA-266 from Vanderbilt University.

NMRA-NMDA is an NMDA positive allosteric modulator program designed to target the NMDA receptor that we intend to develop for the treatment of SCZ. Recent breakthroughs in third-party psychiatric genetic studies have provided genetic evidence in support of the role of NMDA receptors in SCZ. Further, human studies suggest NMDA receptor antagonists (such as ketamine) lead to a SCZ-like syndrome when dosed in healthy volunteers, which provides compelling evidence for this target. Our NMRA-NMDA program was internally discovered, and we have focused on proprietary chemistry which targets a distinct binding site on the target. NMRA-NMDA is in preclinical development.

NMRA-CK1d is a CK1d inhibitor program that we intend to develop for amyotrophic lateral sclerosis (ALS). CK1d is a kinase that has been identified as a proximal upstream regulator of TDP-43 phosphorylation, a key driver of TDP-43-driven pathology in approximately 95% of sporadic ALS cases. There is also genetic evidence supporting the role of TDP-43 in ALS. Our NMRA-CK1d program is in preclinical development. We exclusively licensed certain intellectual property rights related to NMRA-CK1d from Amgen Inc. (Amgen).

NMRA-NLRP3 is an inhibitor program focused on targeting the NLRP3 inflammasome for the treatment of certain neurodegenerative conditions. The inflammasome is a critical part of the innate immune system that responds to pathogens and cellular damage and is implicated in brain disorders, such as Parkinson's disease (PD), as well as immune disorders. The NLRP3 inflammasome can be activated in brain microglia, a type of cell in the brain, and other cell types by a range of proteins linked to neurodegeneration, including alpha-synuclein (a neuronal protein that regulates synaptic vesicle trafficking and is thought to be critical in PD pathogenesis), which suggests the inflammasome may have a mechanistic role in PD. Our NMRA-NLRP3 program was internally discovered and is in preclinical development.

NMRA-GCase is an activator program focused on elevating the activity of the enzyme glucocerebrocidase (GCase) that we are developing for the treatment of PD. Mutations in the GBA gene, which codes for the enzyme GCase, are the single largest genetic risk factor for PD. GCase deficiencies lead to storage disorders of the lysosome, which plays an important role in maintaining cellular balance, and a group of patients with PD has lysosomal dysfunction. Our NMRA-GCase program is in preclinical development. We exclusively licensed certain intellectual property rights related to NMRA-GCase from Amgen.

Our Team

Our people are the backbone of the company and our most important asset. We have assembled a diverse team of experienced company builders and leading neuroscience drug developers, complemented by world-class scientific and technical advisors as well as an experienced board of directors and syndicate of investors. This group shares a long-term commitment to execute our mission to redefine neuroscience drug development by bringing forward the next generation of novel therapies that offer improved treatment outcomes and quality of life for patients suffering from brain diseases.

- ***Experienced Company Builders***. We have multiple individuals with experience building disruptive biopharmaceutical companies. Our Co-Founder, Executive Chairman of our board of directors and former Chief Executive Officer, Paul L. Berns, has over 30 years of drug development and commercialization experience and was previously the President, Chief Executive Officer and Chairman of the Board of Anacor Pharmaceuticals before it was acquired by Pfizer in 2016. Henry O. Gosebruch, our President and Chief Executive Officer, spent more than seven years leading corporate strategy and long-range planning across all of AbbVie's therapeutic franchises, including neuroscience, and had responsibility for building and advancing AbbVie's external innovation pipeline. He has advised major biopharmaceutical and other companies for more than 20 years in his former role in the M&A group at J.P. Morgan where he was co-head of M&A for North America. Carol Suh, our Co-Founder and Chief Operating Officer, has co-founded and built multiple biotechnology companies in her role as a Partner of ARCH Venture Partners. Dr. Joshua Pinto, our Chief Financial Officer, spent a decade advising leading biotechnology companies across their life cycles from his career as an investment banker after completing his Ph.D. in neuroscience and working in research.
- ***Leading Neuroscience Drug Developers***. Our scientific leadership team includes world-class physicians and scientists with extensive neuroscience drug development experience. Dr. Bill Aurora, our Chief Strategy Officer, previously served as Chief Scientific Affairs Officer of Dermira and held medical and scientific affairs leadership roles at Neurocrine Biosciences, Merck Research Laboratories and Amgen. Dr. Rob Lenz, our Head of Research and Development, previously served as Senior Vice President, Global Development at Amgen where he was the global development lead for all of Amgen's therapeutic areas, including neuroscience. Dr. Michael Gold, our Chief Medical Officer, previously served as Vice President of Neuroscience Development at AbbVie where he was involved in the successful approval of CNS therapies including the recent approval of VRAYLAR as an adjunctive treatment for MDD. Dr. Nick Brandon, our Chief Scientific Officer, previously served as Chief Scientist of AstraZeneca's Neuroscience Innovative Medicines and Early Development Division, as well as Head of Psychiatry and Behavioral Disorders for a period that bridged the Wyeth and Pfizer Neuroscience organizations.

- ***Board of Directors and Investors with Shared Long-Term Vision***. Our board of directors is comprised of renowned company builders, operators, leaders, scientists and drug developers with experience across a diverse array of companies. Together with our investors, who have supported us with over $600 million in funding, we share a long-term vision to confront the global brain disease crisis at scale.

Our Strategy

We founded our company to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed across neuropsychiatric disorders and neurodegenerative diseases. Our mission is to redefine neuroscience drug development by bringing forward the next generation of novel therapies that offer improved treatment outcomes and quality of life for patients suffering from brain diseases. The key components of our business strategy to deliver on our mission are to:

- ***Build a broad industry-leading pipeline of novel neuroscience therapeutics***
- ***Advance navacaprant towards commercialization***
- ***Strategically allocate capital across our pipeline to achieve our mission***
- ***Leverage our Precision Toolbox to enhance our development efforts***
- ***Capitalize upon our intellectual property (IP) position to realize the full value of our programs that target novel mechanisms of action***

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common stock. These risks are more fully described in the section titled “Risk Factors” immediately following this prospectus summary. These risks include, among others, the following:

- We are a clinical-stage biopharmaceutical company and have incurred significant losses since our inception, and we expect to incur losses for the foreseeable future. We have no products approved for commercial sale and may never achieve or maintain profitability.
- Our substantial contingent consideration and related obligations from our acquisitions of assets and license and collaboration agreements may result in dilution to our stockholders, may be a drain on our cash resources, or may cause us to incur debt obligations to satisfy the payment obligations.
- Our limited operating history may make it difficult to evaluate our prospects and likelihood of success.
- Even if this offering is successful, we will require additional funding in order to finance operations. If we are unable to raise capital when needed, or on acceptable terms, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.
- If we are unable to successfully identify, develop and commercialize any product candidates, or experience significant delays in doing so, our business, financial condition and results of operations will be materially adversely affected.
- We were founded with a mission to redefine neuroscience drug development, a field that has seen very limited success. The ability to successfully develop drugs in this field is extremely difficult and is subject to a number of unique challenges.
- We have invested and expect to continue to invest in acquiring product candidates, technologies and assets, as well as research and development efforts that further enhance our product pipeline. Such investments may affect our operating results, and, if the return on these investments is lower or develops more slowly than we expect, our revenue and operating results may suffer.

- We have experienced rapid growth since our inception in November 2019, and expect to continue to grow in the future. If we fail to effectively manage our growth, we may not be able to execute on our business objectives.
- We operate in highly competitive and rapidly changing industries, which may result in others discovering, developing or commercializing competing products before or more successfully than we do.
- Clinical and preclinical drug development is a lengthy and expensive process, with an uncertain outcome. Our clinical and preclinical programs have experienced delays and may experience additional delays or may never advance, which would adversely affect our ability to obtain regulatory approvals or commercialize our product candidates on a timely basis or at all, which could have an adverse effect on our business.
- The development and commercialization of drug products is subject to extensive regulation, and the regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time-consuming, and inherently unpredictable. If we are ultimately unable to obtain regulatory approval for our product candidates on a timely basis or at all, our business will be substantially harmed.
- We depend on intellectual property licensed from third parties and we are currently party to in-license agreements under which we acquired rights to use, develop, manufacture and/or commercialize certain of our proprietary technologies and product candidates. If we breach our obligations under these agreements or if any of these agreements is terminated, or otherwise experience disruptions to our business relationships with our licensors, we may be required to pay damages, lose our rights to such intellectual property and technology, or both, which would harm our business.

Our Corporate Information

We were founded in November 2019 as a Delaware corporation under the name RBNC Therapeutics, Inc. We changed our name to Neumora Therapeutics, Inc. in October 2021. Our principal executive offices are located at 490 Arsenal Way, Suite 200, Watertown, Massachusetts 02472, and our telephone number is (857) 760-0900.

In 2020, we acquired Abelian Therapeutics, Inc. (Abelian), BlackThorn Therapeutics, Inc. (BlackThorn), Syllable Life Sciences, Inc. (Syllable), Propellex Bio, Inc. (Propellex) and Alairion, Inc. (Alairion), each of which became our wholly owned subsidiary. As of June 30, 2023, we had dissolved Abelian, BlackThorn, Syllable, Propellex and Alairion.

Our website address is www.neumoratx.com. The information on, or that can be accessed through, our website is not part of this prospectus and is not incorporated by reference herein. We have included our website address as an inactive textual reference only.

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

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). We will remain an emerging growth company until the earliest of: (i) the last day of the fiscal year following the fifth anniversary of the consummation of this offering; (ii) the last day of the fiscal year in which we have total annual gross revenue of at least $1.235 billion; (iii) the last day of the fiscal year in which we are deemed to be a “large accelerated filer” as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended (the Exchange Act), which would occur if the market value of our common stock held by non-affiliates exceeded $700.0 million as of the last business day of the second fiscal quarter of such year; or (iv) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period. An emerging growth company may take advantage of specified reduced reporting requirements and is relieved of certain other significant requirements that are otherwise generally applicable to public companies. As an emerging growth company:

- we will present in this prospectus only two years of audited annual financial statements, plus any required unaudited financial statements, and related management's discussion and analysis of financial condition and results of operations;
- we will avail ourselves of the exemption from the requirement to obtain an attestation and report from our independent registered public accounting firm on the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002;
- we will provide less extensive disclosure about our executive compensation arrangements; and
- we will not require non-binding, advisory stockholder votes on executive compensation or golden parachute arrangements.

In addition, 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 provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have elected to use the extended transition period for any other new or revised accounting standards during the period in which we remain an emerging growth company; however, we have and may adopt certain new or revised accounting standards early.

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 the market value of 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 the market value of 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.

As a result, the information in this prospectus and that we provide to our investors in the future may be different than what you might receive from other public reporting companies.

THE OFFERING

Common stock offered by us	14,710,000 shares.
Option to purchase additional shares of common stock	2,206,500 shares.
Common stock to be outstanding immediately after this offering	151,949,096 shares (or 154,155,596 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 $227.5 million (or approximately $262.3 million if the underwriters exercise their option to purchase additional shares in full) assuming an initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds from this offering, together with our existing cash, cash equivalents and marketable securities, to fund the clinical and preclinical development of our current programs, to fund research and development activities for additional programs, and the remainder for working capital and other general corporate purposes. We may also use a portion of the net proceeds to in-license, acquire, or invest in, complementary technologies, assets, or intellectual property. We regularly evaluate strategic opportunities; however, we have no current commitments to enter into any such license arrangements or acquisition agreements or to make any such investments. See the section titled “Use of Proceeds.”
Risk factors	See the section titled “Risk Factors” and other information included in this prospectus for a discussion of factors you should carefully consider before deciding whether to invest in our common stock.
Proposed Nasdaq trading symbol	“NMRA”

Unless we specifically state otherwise or the context otherwise requires, the number of shares of our common stock to be outstanding after this offering is based on 137,239,096 shares of common stock outstanding as of June 30, 2023 (after giving effect to the conversion of all of our shares of convertible preferred stock outstanding as of June 30, 2023 into an aggregate of 104,417,415 shares of our common stock immediately prior to the completion of this offering), and excludes:

- 11,251,230 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 under our 2020 Equity Incentive Plan (the 2020 Plan), with a weighted-average exercise price of $4.69 per share;
- 192,681 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 under the Blackthorn Therapeutics, Inc. 2015 Equity Incentive Plan that we assumed in a transaction in 2020 (the 2015 Plan), with a weighted-average exercise price of $9.83 per share;
- 841,157 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023, subject to market and performance vesting conditions, with a weighted-average exercise price of $2.58 per share;

- 2,414,750 shares of our common stock issuable upon the exercise of stock options granted subsequent to June 30, 2023, with a weighted-average exercise price of $6.86 per share;
- 3,149,287 shares of our common stock reserved for future issuance under our 2020 Plan as of June 30, 2023;
- shares of our common stock we expect to issue to BlackThorn stockholders equal to and in satisfaction of the $90.0 million milestone payment in connection with the dosing of the first patient in the Phase 3 clinical trial for navacaprant, which we expect to occur as part of the KOASTAL-1 study, the issuance of which we expect to occur in the second half of 2023, with such amount of our common stock to be issued to be based on the 30 day trailing average of the open and close price of our common stock on the Nasdaq from the date the milestone was satisfied, which will occur after the completion of this offering;
- a number of shares of our common stock equal to 10% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) plus any shares of our common stock reserved for future issuance under our 2020 Plan that have not been issued pursuant to any outstanding equity grants reserved for future issuance under our 2023 Incentive Award Plan (the 2023 Plan), which will become effective on the date immediately prior to the date our registration statement relating to this offering becomes effective, as well as any future increases in the number of shares of common stock reserved for issuance under the 2023 Plan; and
- a number of shares of our common stock equal to 1% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) reserved for future issuance under our Employee Stock Purchase Plan (the ESPP), which will become effective on the date immediately prior to the date our registration statement relating to this offering becomes effective, as well as any future increases in the number of shares of common stock reserved for issuance under the ESPP.

Unless we specifically state otherwise or the context otherwise requires, this prospectus reflects and assumes the following:

- the adoption, filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the completion of this offering;
- the conversion of all outstanding shares of our convertible preferred stock outstanding as of June 30, 2023 into 104,417,415 shares of our common stock immediately prior to the completion of this offering;
- no exercise, settlement or termination of the outstanding stock options referred to above;
- a 7.8463-for-1 stock split of our capital stock effected on September 8, 2023; and
- no exercise by the underwriters of their option to purchase additional shares of our common stock in this offering.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables summarize our consolidated financial data for the periods and as of the dates indicated. We have derived the summary consolidated statements of operations and comprehensive loss data for the years ended December 31, 2021 and 2022, except for pro forma amounts, from our audited consolidated financial statements and related notes included elsewhere in this prospectus. We have derived the summary consolidated statements of operations and comprehensive loss data for the six months ended June 30, 2022 and 2023, except for pro forma amounts, and the summary consolidated balance sheet data as of June 30, 2023, except for pro forma amounts, from our unaudited condensed consolidated financial statements and related notes as of and for the six months ended June 30, 2023 and 2022 included elsewhere in this prospectus. Our unaudited condensed consolidated financial statements were prepared on a basis consistent with our audited consolidated 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 results that may be expected in the future and our interim results are not necessarily indictive of the results that may be expected for the full year. You should read the following summary consolidated financial data together with our audited consolidated financial statements, unaudited condensed consolidated financial statements and the related notes included elsewhere in this prospectus and the information in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Year Ended December 31,		Six Months Ended June 30,	
	2021	2022	2022	2023
	(in thousands, except per share data)			
Consolidated Statements of Operations and Comprehensive Loss Data:				
Operating expenses:				
Research and development	$ 55,776	$ 91,749	$ 45,677	$ 62,254
Acquired in-process research and development	157,000	13,000	13,000	—
General and administrative	24,547	31,121	15,873	18,976
Total operating expenses	237,323	135,870	74,550	81,230
Loss from operations	(237,323)	(135,870)	(74,550)	(81,230)
Other income (expense):				
Interest income	—	4,561	870	7,127
Other income (expense), net	11	405	266	(65)
Total other income	11	4,966	1,136	7,062
Net loss	$(237,312)	$(130,904)	$(73,414)	$ (74,168)
Other comprehensive income (loss):				
Unrealized gain (loss) on marketable securities	—	(774)	(870)	326
Comprehensive loss	(237,312)	(131,678)	(74,284)	(73,842)
Net loss per share, basic and diluted	$ (10.84)	$ (4.81)	$ (2.78)	$ (2.50)
Weighted-average shares outstanding, basic and diluted	21,897	27,207	26,432	29,703
Pro forma net loss per share, basic and diluted(1)		$ (1.00)		$ (0.56)
Pro forma weighted-average shares outstanding, basic and diluted(1)		131,624		134,120

(1) The unaudited pro forma basic and diluted net loss per share for the year ended December 31, 2022 and for the six months ended June 30, 2023 have been prepared to give effect to the assumed conversion of outstanding shares of convertible preferred stock to common stock at December 31, 2022 and June 30, 2023, respectively, as if the convertible preferred stock was outstanding as of January 1, 2022 or January 1, 2023, respectively, irrespective of when the convertible preferred stock was issued.

	As of June 30, 2023		
	Actual	Pro Forma(1)	Pro Forma as Adjusted(2)(3)
	(unaudited, in thousands)		
Consolidated Balance Sheet Data:			
Cash, cash equivalents and marketable securities	$ 334,089	$ 334,089	$ 563,914
Working capital(4)	310,523	310,523	541,541
Total assets	359,952	359,952	586,224
Convertible preferred stock	843,687	—	—
Additional paid-in capital	28,581	872,257	1,099,721
Accumulated deficit	(541,677)	(541,677)	(541,677)
Total stockholders' (deficit) equity	(513,541)	330,146	(557,611)

(1) The pro forma consolidated balance sheet data gives reflects (i) the conversion of all outstanding shares of our convertible preferred stock as of June 30, 2023 into an aggregate of 104,417,415 shares of our common stock immediately prior to the completion of this offering, (ii) the related reclassification of our convertible preferred stock aggregate carrying value to permanent equity and (iii) the filing and effectiveness of our amended and restated certificate of incorporation, which will be effective immediately prior to the completion of this offering.

(2) The pro forma as adjusted consolidated balance sheet data gives effect to (i) the pro forma adjustments described in footnote (1) above and (ii) the sale and issuance of 14,710,000 shares of common stock by us in this offering, at the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, of which $2.4 million had been paid as of June 30, 2023 and $1.2 million had been accrued as of June 30, 2023.

(3) Each $1.00 increase or decrease in the assumed initial public offering price of $17.00 per share, which is the midpoint of the 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, cash equivalents and marketable securities, working capital, total assets, additional paid-in capital and total stockholders' equity by $13.7 million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, an increase or decrease of 1.0 million shares in the number of shares of common stock offered would increase or decrease, as applicable, each of our cash, cash equivalents and marketable securities, working capital, total assets, additional paid-in capital and total stockholders' equity by $15.8 million, assuming the initial public offering price remains the same, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma as adjusted consolidated balance sheet data discussed above is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing.

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

RISK FACTORS

Investing in shares of our common stock involves a high degree of risk. You should carefully consider the following risks and uncertainties, together with all of the other information contained in this prospectus, including our audited consolidated financial statements, unaudited condensed consolidated financial statements and related notes included elsewhere in this prospectus, before making an investment decision. The risks described below are not the only ones facing us. Many of the following risks and uncertainties are, and will be, exacerbated by any worsening of the global business and economic environment. The occurrence of any of the following risks, or of additional risks and uncertainties not presently known to us or that we currently believe to be immaterial, could materially and adversely affect our business, financial condition, reputation, or results of operations. In such case, the trading price of shares of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Our Limited Operating History, Financial Condition and Need for Additional Capital

We are a clinical-stage biopharmaceutical company and have incurred significant losses since our inception, and we expect to incur losses for the foreseeable future. We have no products approved for commercial sale and may never achieve or maintain profitability.

We are a clinical-stage biopharmaceutical company with a limited operating history. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We have incurred significant losses since our inception in November 2019, have no products approved for commercial sale, have not generated any revenue from product sales, have financed our operations principally through private placements of convertible preferred stock and convertible promissory notes and expect to incur significant losses for the foreseeable future. We expect that it will be several years before we have a commercialized product and generate revenue from product sales. Our net loss was $237.3 million and $130.9 million for the years ended December 31, 2021 and 2022, respectively, and $73.4 million and $74.2 million for the six months ended June 30, 2022 and 2023, respectively. As of June 30, 2023, we had an accumulated deficit of $541.7 million. Our losses have resulted principally from acquired in-process research and development from our acquisitions of assets, expenses incurred in the research and development of our product candidates, as well as from costs associated with our preclinical studies and clinical trials and management and administrative costs and other expenses that we have incurred while building our business infrastructure.

We expect our expenses and operating losses will continue to increase substantially for the foreseeable future as we expand our research and development efforts, advance our clinical candidates to potentially registrational trials, identify and acquire product candidates, complete preclinical studies and initiate additional clinical trials, seek regulatory approval and commercialization of our product candidates and operate as a public company. We anticipate that our expenses will continue to increase substantially as we:

- continue clinical and preclinical development of our current and future product candidates and initiate additional preclinical studies and clinical trials;
- seek regulatory approval of our current and future product candidates;
- acquire additional product candidates, technologies, multimodal patient datasets and other assets for our business;
- expand our operational, financial and management systems and increase personnel, including personnel to support our clinical and preclinical development, manufacturing and commercialization efforts;
- continue to develop, perfect, maintain and defend our intellectual property portfolio; and
- incur additional legal, accounting or other expenses in operating our business, including the additional costs associated with operating as a public company.

We have devoted a significant portion of our financial resources and efforts to building our organization, acquiring technologies and companies, executing clinical and preclinical studies, conducting research and development, identifying and developing potential product candidates, building our precision neuroscience approach, organizing and staffing our company, business planning, establishing, maintaining and protecting our intellectual property portfolio, raising capital and providing general and administrative support for these operations. We have not completed development and commercialization of any of our product candidates with most still being in relatively early development.

To become and remain profitable, we must succeed in identifying, developing, conducting successful clinical trials, obtaining regulatory approval for, and eventually commercializing, products that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing preclinical studies and clinical trials of our product candidates, continuing to discover and develop additional product candidates, obtaining regulatory and marketing approval for any product candidates that successfully complete clinical trials, accessing manufacturing capacity, establishing marketing capabilities, commercializing and ultimately selling any products. We may never succeed in any or all of these activities and, even if we do, we may never generate revenue that is sufficient to achieve profitability. Even if we do achieve profitability, we may not be able to sustain profitability or meet outside expectations for our profitability. If we are unable to achieve or sustain profitability or to meet outside expectations for our profitability, the price of our common stock could be materially adversely affected.

Because of the numerous risks and uncertainties associated with biopharmaceutical and biotechnology products and drug development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. If we are required by the U.S. Food and Drug Administration (FDA) or comparable foreign regulatory authorities to perform studies in addition to those we currently anticipate, or if there are any delays in commencing or completing our clinical trials or the development of any of our product candidates, our expenses could increase and commercial revenue could be further delayed and become more uncertain, which will have a material adverse impact on our business.

Our substantial contingent consideration and related obligations from our acquisitions of assets and license and collaboration agreements may result in dilution to our stockholders, may be a drain on our cash resources, or may cause us to incur debt obligations to satisfy the payment obligations.

In connection with our acquisitions of assets in late 2020, we entered into arrangements whereby the former stockholders of those companies are entitled to substantial contingent consideration payments upon the occurrence of certain events. For example, in connection with our acquisition of BlackThorn Therapeutics, Inc. (BlackThorn), a privately held company, the former BlackThorn stockholders are entitled to contingent consideration (i) with respect to navacaprant (NMRA-140), in the form of development and regulatory approval milestones of up to an aggregate amount of $365.0 million, which includes a milestone payment of $90.0 million that will become due upon dosing the first patient in the Phase 3 clinical trial for navacaprant, which we expect to pay by issuing an amount of our common stock equal to $90.0 million in the second half of 2023, and sales-based milestones of up to an aggregate amount of $450.0 million and (ii) with respect to NMRA-511, in the form of development and regulatory approval milestones of up to an aggregate amount of $100.0 million and sales-based milestones of up to an aggregate amount of $100.0 million (BlackThorn Milestone Payments). With the exception of one development milestone in the amount of $10.0 million that is required to be settled in cash, the remaining BlackThorn Milestone Payments may be settled in cash or shares of our equity, or a combination of both, at our sole discretion. In connection with the BlackThorn acquisition, we also became obligated under its license agreement with TSRI for, among other obligations, development and regulatory milestone payments of up to $1.5 million in aggregate for the first product from each of the TSRI programs and commercial milestone payments of up to $3.5 million in aggregate for each occurrence.

Under the terms of our September 2021 license agreements with Amgen, we are obligated to pay Amgen up to an aggregate of $720.0 million in commercial milestone payments upon the achievement of certain sales thresholds and single digit royalties on potential annual worldwide net sales related to the CK1d or GCase programs. In addition, under the collaboration agreement with Amgen, we are committed to making quarterly payments to Amgen for their collaboration activities over the next three years totaling $62.5 million, or $75.0 million if certain progress milestones are achieved.

Under the terms of our license agreement, as amended, with Vanderbilt University (Vanderbilt), we are obligated to pay Vanderbilt up to an aggregate of $422.0 million in development and commercial milestone payments upon the achievement of certain development milestones and sales thresholds, and mid-single digit royalties on potential future net sales.

In order to satisfy our obligations to make these payments, if and when they are triggered, we may need to issue equity or convertible debt securities that may cause dilution to our stockholders, or we may use our existing cash or incur debt obligations to satisfy the payment obligations in cash, which may adversely affect our financial position. In addition, these obligations may impede our ability to raise money in future public offerings of debt or equity securities or to obtain a third-party line of credit.

See the sections titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Recent Acquisitions of Assets” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Strategic License and Research and Collaboration Agreements” elsewhere in this prospectus for additional information regarding these agreements.

Our limited operating history may make it difficult to evaluate our prospects and likelihood of success.

We are a clinical-stage biopharmaceutical company with a limited operating history upon which you can evaluate our business and prospects. Since our inception in November 2019, we have devoted substantially all of our resources and efforts to building our organization, acquiring technologies and companies, executing preclinical studies and clinical trials, conducting research and development, identifying and developing potential product candidates, building our precision neuroscience tools, organizing and staffing our company, business planning, establishing, maintaining and protecting our intellectual property portfolio, raising capital and providing general and administrative support for these operations. All of our product candidates are in either clinical development or in preclinical stages of development, and we have not yet demonstrated our ability to successfully complete any late-stage or registrational/pivotal clinical trials, obtain regulatory approvals, manufacture a commercial scale product or arrange for a third party to do so on our behalf or conduct sales and marketing activities necessary for successful product commercialization. Additionally, we expect our financial condition and operating results to continue to fluctuate significantly from period to period due to a variety of factors, many of which are beyond our control. Consequently, any predictions you may make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors and risks frequently experienced by clinical-stage biotechnology and biopharmaceutical companies in rapidly evolving fields. We also may need to transition from a company with a research focus to a company capable of supporting commercial activities. If we do not adequately address these risks and difficulties or successfully make such a transition, it could have a material adverse effect on our business.

Even if this offering is successful, we will require additional funding in order to finance operations. If we are unable to raise capital when needed, or on acceptable terms, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

Developing biopharmaceutical products, including conducting preclinical studies and clinical trials, is a very time-consuming, expensive and uncertain process that takes years to complete. We expect our expenses to continue to increase in connection with our ongoing activities, particularly as we conduct clinical trials of, and seek regulatory and marketing approval for, our product candidates. Even if one or more of our product candidates is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. To date, we have funded our operations principally through private financings. We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the clinical and preclinical development of our product candidates, continue to develop and deploy our precision neuroscience approach, commence additional preclinical studies and clinical trials, and continue to identify and develop additional product candidates either through internal development or through acquisitions or in-licensing product candidates.

In addition, if we obtain regulatory approval for any of our product candidates, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. 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 order to support our continuing operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or any future regulatory approval or commercialization efforts.

As of June 30, 2023, we had $334.1 million of cash, cash equivalents and marketable securities. Based upon our current operating plan, we believe that our existing cash, cash equivalents and marketable securities as of the date of this prospectus will enable us to fund our operating expenses and capital expenditure requirements through at least the next 12 months from the date of this offering. In addition, based upon our current operating plan, we believe that the net proceeds from this offering together with our existing cash, cash equivalents and marketable securities will enable us to fund our operating expenses and capital expenditure requirements through at least the next 30 months from the date of this offering. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect. We may also raise additional financing on an opportunistic basis in the future. We expect to continue to expend significant resources for the foreseeable future. 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. Attempting to secure additional financing may divert our management from our day-to-day activities, which may adversely affect our ability to develop our product candidates. Our future capital requirements will depend on many factors, including but not limited to:

- the scope, timing, progress, costs and results of discovery, preclinical development and clinical trials for our current or future product candidates;
- the number 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;
- the costs associated with acquiring or licensing additional product candidates, technologies or assets, including the timing and amount of any milestones, royalties or other payments due in connection with our acquisitions and licenses;
- the cost of manufacturing clinical and commercial supplies of our current or future product candidates;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims, including any claims by third parties that we are infringing upon their intellectual property rights;
- the effectiveness of our precision neuroscience approach at identifying target patient populations and utilizing our approach to enrich our patient population in our clinical trials;
- our ability to maintain existing, and establish new, strategic collaborations 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 access additional multimodal patient datasets;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- expenses 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 payers;
- the effect of macroeconomic trends including inflation and rising interest rates;
- addressing any potential supply chain interruptions or delays, including those related to the COVID-19 pandemic;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in business, products and technologies.

Our ability to raise additional funds will depend on financial, economic, political and market conditions and other factors, over which we may have no or limited control. Additional funds may not be available when we need them, on terms that are acceptable to us, or at all. If we fail to obtain necessary capital when needed on acceptable terms, or at all, it could force us to delay, limit, reduce or terminate our product development programs, future commercialization efforts or other operations. Because of the numerous risks and uncertainties associated with research, product development and commercialization of product candidates, we are unable to predict the timing or amount of our working capital requirements or when or if we will be able to achieve or maintain profitability.

Accordingly, we will need to continue to rely on additional financing to achieve our business objectives and adequate additional financing may not be available to us on acceptable terms, or at all.

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

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our operations with our existing cash, cash equivalents and marketable securities, the net proceeds from this offering, any future equity or debt financings and upfront and milestone and royalties payments, if any, received under any future licenses or collaborations. If we raise additional capital through the sale of equity or convertible debt securities, or issue any equity or convertible debt securities in connection with a collaboration agreement or other contractual arrangement, such as the anticipated $90.0 million stock issuance we anticipate making in the second half of 2023 in connection with the contingent consideration owed to Blackthorn stockholders, 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 holder of our common stock. In addition, the possibility of such issuance may cause the market price of our common stock to decline. Debt financing, if available, may result in increased fixed payment obligations and involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, declaring dividends or acquiring, selling or licensing intellectual property rights or assets, which could adversely impact our ability to conduct our business.

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 intellectual property, technologies, future revenue streams or product candidates or grant licenses on terms that may not be favorable to us. We could also be required to seek funds through arrangements with collaborators or others at an earlier stage than otherwise would be desirable. Any of these occurrences may have a material adverse effect on our business, operating results and prospects.

We maintain the majority of our cash and cash equivalents in accounts with major U.S. and multi-national financial institutions, and our deposits at certain of these institutions exceed insured limits. Market conditions and changes in financial regulations and policies can impact the viability of these institutions. In the event of failure of any of the financial institutions where we maintain our cash and cash equivalents, there can be no assurance that we would be able to access uninsured funds in a timely manner or at all. Any inability to access or delay in accessing these funds could adversely affect our business and financial position. In addition, changes in regulations governing financial institutions are beyond our control and difficult to predict; consequently, the impact of such changes on our business and results of operations is difficult to predict and may have an adverse effect on us.

Risks Related to Our Business

If we are unable to successfully identify, develop and commercialize any product candidates, or experience significant delays in doing so, our business, financial condition and results of operations will be materially adversely affected.

Our ability to generate revenue from sales of any of our approved product candidates, which we do not expect will occur for at least the next several years, depends heavily on the successful identification, development, regulatory approval and eventual commercialization of any product candidates, which may never occur. We have never generated revenue from sales of any products, and we may never be able to develop, obtain regulatory approval for, or commercialize, a marketable product. All of our product candidates will require significant clinical development, regulatory approval, establishment of sufficient manufacturing supply, including commercial manufacturing supply, and may require us to build a commercial organization and make substantial investment and significant marketing efforts before we generate any revenue from product sales. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the FDA or comparable foreign regulatory authorities, and we may never receive such regulatory approval for any of our product candidates.

The successful development of our product candidates will depend on several factors, including, but not limited to, the following:

- successful and timely completion of preclinical studies and clinical trials for which the FDA, or any comparable foreign regulatory authority, agree with the design, endpoints, or implementation;
- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;
- receiving regulatory approvals or authorizations for conducting future clinical trials;
- initiation and successful patient enrollment in, and completion of, clinical trials on a timely basis;
- our ability to demonstrate to the satisfaction of the FDA or any comparable foreign regulatory authority that the applicable product candidate is safe and effective as for its intended uses;
- our ability to demonstrate to the satisfaction of the FDA or any comparable foreign regulatory authority that the applicable product candidate's risk-benefit ratio for its proposed indication is acceptable;
- timely receipt of marketing approvals for our product candidates from applicable regulatory authorities;
- addressing any potential supply chain interruptions or delays. including those related to the COVID-19 pandemic;
- the extent of any required post-marketing approval commitments to applicable regulatory authorities; and
- establishing, scaling up and scaling out, either alone or with third-party manufacturers, manufacturing capabilities of clinical supply for our clinical trials and commercial manufacturing, if any of our product candidates are approved.

If we do not achieve one or more of these factors in a timely manner or at all, we could experience significant delays or an inability to successfully develop and commercialize our product candidates, which would materially adversely affect our business, financial condition, and results of operations.

Additionally, clinical or regulatory setbacks to other companies developing similar products or within adjacent fields may impact the clinical development of and regulatory pathway for our current or future product candidates, or may negatively impact the perceptions of value or risk of our technologies.

We were founded with a mission to redefine neuroscience drug development, a field that has seen very limited success. The ability to successfully develop drugs in this field is extremely difficult and is subject to a number of unique challenges.

Drug development in the field of brain diseases, and neuropsychiatric disorders and neurodegenerative diseases in particular, has seen very limited success historically. We estimate over $110 billion have been spent on neuroscience research and development since 2019 in the United States alone, representing approximately 33% of all disease-specific spending. However, only approximately 12% of all new therapies approved during this time period have been for the treatment of brain diseases. From 2011 to 2020, clinical development success rates for new drug candidates that employed patient selection biomarkers were approximately 16% compared to approximately 8% for patients without patient selection biomarkers according to the BIO; however, clinical success depends on a number of factors and employing a patient selection biomarker approach does not guarantee that our product candidates will be approved and commercialized. Developing a product candidate for treatment of these brain diseases is extremely difficult and subjects us to a number of unique challenges, including obtaining regulatory approval from the FDA and other regulatory authorities who have only a limited set of precedents to rely on.

We intend to work closely with the FDA and comparable foreign regulatory authorities to perform the requisite scientific analyses and evaluation in an effort to obtain regulatory approval for our product candidates; however, the process of developing our product candidates may be more complex and time-consuming relative to other more well-known approaches to drug development. We cannot be certain that our approach will lead to the development of product candidates that effectively and safely address the underlying brain diseases.

Moreover, given the history of clinical failures in this field, future clinical or regulatory failures by us or others may have result in further negative perception of the likelihood of success in this field, which may significantly and adversely affect the market price of our common stock.

We have invested and expect to continue to invest in acquiring product candidates, technologies and assets, as well as research and development efforts that further enhance our product pipeline. Such investments may affect our operating results, and, if the return on these investments is lower or develops more slowly than we expect, our revenue and operating results may suffer.

We have invested and expect to continue to invest in acquiring potential product candidates to enhance our product pipeline, technologies and assets. These activities and investments involve significant time, risks, and uncertainties, including the risk that the associated expenses may affect our operating results, that such investments may not generate products that can be successfully developed or technologies that can be effectively used by us, and cause significant drains on capital resources and commit us to substantial financial obligations. While we believe that we must continue to invest a significant amount of time and resources in the development of our product pipeline, if we do not achieve the benefits anticipated from these investments, or if the achievement of these benefits is delayed, our business, operating results and prospects may be materially adversely affected.

We have experienced rapid growth since our inception in November 2019, and expect to continue to grow in the future. If we fail to effectively manage our growth, we may not be able to execute on our business objectives.

As of June 30, 2022, we had 101 full-time employees and, as of June 30, 2023, we had grown to 110 full-time employees. We expect continued growth in the number of our employees and the scope of our operations, particularly as we continue our current and future clinical trials and preclinical studies, initiate and conduct investigational new drug (IND)-enabling studies and build out our clinical operations, regulatory, quality and manufacturing infrastructure. In addition to headcount growth, we have made a number of acquisitions of assets, and entered into a significant strategic collaboration with Amgen and in-licensed programs from Amgen and Vanderbilt. These activities have added significant complexity to our organization, including a number of clinical and preclinical programs that we are now developing. These programs require significant infrastructure and headcount to effectively prosecute.

To manage our anticipated future growth, we will continue to implement and improve our managerial, operational, and financial systems, expand our facilities, and continue to recruit and train additional qualified personnel. Due to the complexity in managing a company that has scaled very quickly and anticipates continued growth, we may not be able to scale our headcount and operations effectively to manage the expansion of our product pipeline or recruit and train the necessary additional personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

In addition, future growth imposes significant added responsibilities on members of management, including: identifying, recruiting, integrating, maintaining, and motivating additional employees; managing our internal development efforts effectively, including the clinical and FDA review process for our product candidates, while complying with our contractual obligations to contractors and other third parties; and improving and scaling our operational, financial and management controls, reporting systems and procedures.

We currently rely on certain independent organizations, advisors, and consultants to provide certain services, including strategic, financial, business development, and research and development services, as well as certain aspects of regulatory approval and manufacturing. There can be no assurance that the services of independent organizations, advisors, and consultants will continue to be available to us on a timely basis when needed, or that we can find qualified replacements. In addition, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants or contract manufacturing organizations is compromised for any reason, our clinical trials may be extended, delayed, or terminated, and we may not be able to obtain regulatory approval of our product candidates or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on reasonable terms, or at all.

Our ability to develop product candidates, leverage our precision neuroscience approach and our future growth depends on attracting, hiring and retaining our key personnel and recruiting additional qualified personnel.

Our success depends upon the continued contributions of our key management and scientific personnel, many of whom have been instrumental for us and have substantial experience with developing therapies, identifying potential product candidates and building the technologies related to the clinical development of our product candidates. Given the specialized nature of brain diseases and our approach, there is an inherent scarcity of experienced personnel in these fields. As we continue developing our product candidates in our pipeline, we will require personnel with medical, scientific, or technical qualifications specific to each program. The loss of key personnel, in particular our neuroscientists, would delay our research and development activities. Despite our efforts to retain valuable employees, members of our team may terminate their employment with us on short notice. The competition for qualified personnel in the biotechnology and biopharmaceutical industries is intense, and our future success depends upon our ability to attract, retain, and motivate highly skilled scientific, technical and managerial employees. We face competition for personnel from other companies, universities, public and private research institutions, and other organizations. If our recruitment and retention efforts are unsuccessful in the future, it may be difficult for us to implement our business strategy, which would have a material adverse effect on our business.

In addition, our clinical operations and research and development programs depend on our ability to attract and retain highly skilled scientists, data scientists, and engineers, particularly in Massachusetts and California.

There is powerful competition for skilled personnel in these geographical markets, and we have from time to time experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications on acceptable terms, or at all. Many of the companies with which we compete for experienced personnel have greater resources than we do, and any of our employees may terminate their employment with us at any time. If we hire employees from competitors or other companies, their former employers may attempt to assert that these employees or we have breached legal obligations, resulting in a diversion of our time and resources and, potentially, damages. In addition, job candidates and existing employees often consider the value of the stock awards they receive in connection with their employment. If the perceived benefits of our stock awards decline, it may harm our ability to recruit and retain highly skilled employees. If we fail to attract new personnel or fail to retain and motivate our current personnel, our business and future growth prospects would be harmed.

We may not realize the benefits of assets that we have acquired, or will acquire in the future, or other strategic transactions that we have or will consummate.

Our approach represents an aggregation of innovation and assets from multiple companies and academic institutions, including BlackThorn, Syllable and Alairion as well as Amgen, TSRI and Vanderbilt. Further, a key component of our strategy is to acquire and in-license assets and technologies to support the growth of our product pipeline and to enhance our Precision Toolbox. As such, we actively evaluate various strategic transactions on an ongoing basis. We may acquire other assets, businesses, products or technologies, as well as pursue joint ventures or investments in complementary businesses. The success of our strategic transactions and any future strategic transactions depends on the risks and uncertainties involved including:

- unanticipated liabilities related to acquired companies or joint ventures;
- difficulties integrating acquired personnel, technologies, and operations into our existing business;
- retention of key employees;
- diversion of management time and focus from operating our business to the management of acquisition and integration efforts, strategic alliances or joint ventures challenges;
- increases in our expenses and reductions in our cash available for operations and other uses;
- disruption in our relationships with collaborators or suppliers; and
- possible write-offs or impairment charges relating to acquired businesses or joint ventures.

If any of these risks or uncertainties occur, we may not realize the anticipated benefit of any acquisition or strategic transaction. For example, less than one year following the acquisition of Propellex, we terminated and are no longer developing the program we acquired from Propellex. We have ceased the development of our NMRA-094 product candidate for the treatment of obstructive sleep apnea (OSA) that we acquired from Alairion based on pre-IND feedback we received from the FDA. Additionally, foreign acquisitions and joint ventures are subject to additional risks, including those related to integration of operations across different cultures and languages, currency risks, potentially adverse tax consequences of overseas operations and the particular economic, political and regulatory risks associated with specific countries.

Future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses, impairments or write-offs of goodwill or impairments and write-offs of in-process research and development assets, any of which could harm our financial condition.

We have relied on, and in the future will continue to rely on, third-party datasets and databases to build and enhance our precision neuroscience approach. If we are not able to access additional data sets or develop enhancements to our precision neuroscience approach, our ability to execute on our strategy may be limited.

Our ability to execute on our drug development strategy depends in part on our ability to enhance and improve our precision neuroscience approach. As part of this approach, we interrogate public, partnered and proprietary datasets across neuropsychiatric and neurodegenerative diseases, currently encompassing genetic, imaging, electroencephalogram (EEG), digital and clinical data. We rely on these datasets and data analytics for identifying or validating some of our biomarker-target relationships. The success of our precision neuroscience approach and any enhancement to our approach depends on several factors, including access to and generation of additional multimodal patient datasets, whether public, partnered or proprietary, development of more advanced proprietary machine learning capabilities and increased computational storage and processing capacity. If we are unable to access additional datasets or they are not available on acceptable terms, or if we are otherwise unsuccessful in enhancing our approach, we may be limited in our precision neuroscience capabilities and not be able to fully utilize a precision neuroscience drug development strategy.

In addition, access to public data sets may be limited by governmental or other restrictions, including restrictions on commercial application by government or government sponsored organizations or privacy related restrictions. See the risk factor “We face potential liability related to the privacy of health information we utilize in the development of product candidates, as well as information we obtain from clinical trials sponsored by us from research institutions and directly from individuals” for additional information on privacy related considerations.

The ongoing pandemic caused by COVID-19, or another pandemic, epidemic, or infectious disease outbreak in the United States or worldwide, could materially and adversely affect our preclinical studies and development, any clinical trials we subsequently commence, and our business, financial condition and results of operations.

The COVID-19 pandemic continues to evolve. As a result of the COVID-19 pandemic or any other pandemic, epidemic or outbreak of an infectious disease, we may experience disruptions that could severely impact our business, preclinical studies and clinical trials. Potential disruptions to the development of our product candidates include, but are not limited to:

- interruption of key clinical trial activities, such as clinical trial site data monitoring and efficacy and safety data collection, processing and analyses, due to limitations on travel imposed or recommended by federal, state, or local governments, employers and others or interruption of clinical trial subject visits, which may impact the collection and integrity of subject data and clinical trial endpoints;
- delays or difficulties in initiating or expanding clinical trials, including delays or difficulties with clinical site initiation and recruiting clinical site investigators and clinical site staff;
- delays or difficulties in enrolling and retaining patients in our clinical trials;
- increased rates of patients withdrawing from our clinical trials following enrollment as a result of contracting COVID-19 or other health conditions or being forced to quarantine;
- interruption of, or delays in receiving, supplies of our product candidates from our contract manufacturing organizations due to staffing shortages, production slowdowns, or stoppages and disruptions in materials and reagents;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- interruption or delays in the operations of the FDA and comparable foreign regulatory agencies;
- changes in regulations as part of a response to the COVID-19 pandemic which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs, or to discontinue the clinical trials altogether;
- delays in receiving approval from local regulatory authorities to initiate our planned clinical trials;
- delays or disruptions in preclinical experiments and IND-enabling studies due to restrictions of on-site staff, limited or no access to animal facilities, ongoing supply chain issues that are impacting supplies of laboratory reagents and unforeseen circumstances at contract research organizations (CROs) and vendors;

- limitations on employee or other resources that would otherwise be focused on the conduct of our and preclinical work, including because of sickness of employees or their families, the desire of employees to avoid travel or contact with large groups of people, an increased reliance on working from home, school closures, or mass transit disruptions;
- delays in necessary interactions with regulators, ethics committees, and other important agencies and contractors due to limitations in employee resources or forced furlough of government or contractor personnel;
- limitations in maintaining our corporate culture that facilitates the transfer of institutional knowledge within our organization and fosters innovation, teamwork, and a focus on execution;
- limitations on employee resources that would otherwise be focused on the conduct of our preclinical studies and clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people;
- interruption of, or delays in receiving, supplies of our product candidates from our contract manufacturing organizations due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems;
- refusal of the FDA or comparable regulatory authorities to accept data from clinical trials in affected geographies; and
- additional delays, difficulties or interruptions as a result of current or future shutdowns due to the COVID-19 pandemic in countries where we or our third-party service providers operate.

The COVID-19 pandemic delayed patient enrollment in our Phase 2 clinical trial of navacaprant, caused difficulties in accessing animal models for our preclinical evaluation of our product candidates and has posed challenges to the development timeline of preclinical studies and manufacturing services provided to us by third-party vendors located in China. The ongoing pandemic may further delay our initiation of preclinical studies and clinical trials, interrupt our supply chain, disrupt regulatory activities or have other adverse effects on our business and operations.

The COVID-19 pandemic continues to rapidly evolve, and the extent to which it and any other pandemic, epidemic, or other outbreak may affect our preclinical studies, clinical trials, business, financial condition and results of operations will depend on future developments, which continue to be highly uncertain and unpredictable and present material uncertainty and risk to our business.

We operate in highly competitive and rapidly changing industries, which may result in others discovering, developing or commercializing competing products before or more successfully than we do.

The biotechnology and biopharmaceutical industries are highly competitive and subject to significant and rapid technological change. Our success is highly dependent on our ability to discover, develop and obtain marketing approval for new and innovative products on a cost-effective basis and to market them successfully. In doing so, we face and will continue to face intense competition from a variety of businesses, including large biopharmaceutical and biotechnology companies, academic institutions, government agencies and other public and private research organizations. These organizations may have significantly greater resources than we do and conduct similar research, seek patent protection and establish collaborative arrangements for research, development, manufacturing, and marketing of products that compete with our product candidates. Mergers and acquisitions in the biotechnology and biopharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries.

With the proliferation of new drugs and therapies for our target indications, we expect to face increasingly intense competition as new technologies become available. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future. The highly competitive nature of and rapid technological changes in the biotechnology and biopharmaceutical industries could render our product candidates or our technology obsolete, less competitive or uneconomical. Our competitors may, among other things:

- have significantly greater financial, manufacturing, marketing, drug development, technical, and human resources than we do;
- develop and commercialize products that are safer, more effective, less expensive, more convenient or easier to administer, or have fewer or less severe side effects;
- obtain quicker regulatory approval;
- establish superior proprietary positions covering our products and technologies;
- implement more effective approaches to sales and marketing; or
- form more advantageous strategic alliances.

Should any of these factors occur, our business, financial condition and results of operations could be materially adversely affected.

In addition, any collaborators may decide to market and sell products that compete with the product candidates that we have agreed to license to them, and any competition by our collaborators could also have a material adverse effect on our future business, financial condition, and results of operations.

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 and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in developing or acquiring technologies complementary to, or necessary for, our programs.

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

Because we have limited financial and managerial resources, we focus on research programs, therapeutic platforms, and product candidates that we identify for specific indications. Additionally, we have contractual commitments under the agreements for various product candidate assets that we acquired from third parties, as well as our license and collaboration agreements, to use commercially reasonable efforts to develop certain programs and, thus, do not have unilateral discretion to vary from such agreed to efforts. In addition, we have contractual commitments to conduct certain development plans, and thus may not have discretion to modify such development plans, including clinical trial designs, without agreement from our collaboration partner. As a result, we may forego or delay pursuit of opportunities with other therapeutic platforms or product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs, therapeutic platforms, 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.

We rely upon third-party providers of cloud-based infrastructure to host our platforms. Any disruption in the operations of these third-party providers, limitations on capacity, or interference with our use could adversely affect our business, financial condition, and results of operations.

We outsource substantially all of the technological infrastructure relating to our hosted platform to third-party hosting services, such as Amazon Web Services. We have no control over any of these third parties, and while we attempt to reduce risk by minimizing reliance on any single third party or its operations, we cannot guarantee that such third-party providers will not experience system interruptions, outages or delays, or deterioration in their performance. We need to be able to access our computational platform at any time, without interruption or degradation of performance. Our hosted platform depends on protecting the virtual cloud infrastructure hosted by third-party hosting services by maintaining its configuration, architecture, features, and interconnection specifications, as well as protecting the information stored in these virtual data centers, which is transmitted by third-party Internet service providers. We have experienced, and expect that in the future we may again experience interruptions, delays and outages in service and availability from time to time due to a variety of factors, including infrastructure changes, human or software errors, website hosting disruptions and capacity constraints. Any limitation on the capacity of our third-party hosting services could adversely affect our business, financial condition, and results of operations. In addition, any incident affecting our third-party hosting services' infrastructure that may be caused by cyber-attacks, natural disasters, fire, flood, severe storm, earthquake, power loss, telecommunications failures, terrorist or other attacks, and other disruptive events beyond our control could negatively affect our cloud-based solutions. A prolonged service disruption affecting our cloud-based solutions could damage our reputation or otherwise harm our business. We may also incur significant costs for using alternative equipment or taking other actions in preparation for, or in reaction to, events that damage the third-party hosting services we use.

In the event that our service agreements with our third-party hosting services are terminated, or there is a lapse of service, elimination of services or features that we utilize, interruption of internet service provider connectivity, or damage to such facilities, we could experience interruptions in access to our platform as well as significant delays and additional expense in arranging or creating new facilities and services and/or re-architecting our hosted software solutions for deployment on a different cloud infrastructure service provider, which could adversely affect our business, financial condition, and results of operations.

If our security measures are breached or unauthorized access to our other data is otherwise obtained, our data may be perceived as not being secure and we may incur significant liabilities.

We use a set of proprietary tools to generate, analyze, and derive novel insights from our data. As a result, unauthorized access to or security breaches of our data, as a result of third-party action, employee or contractor error, malfeasance, or otherwise could require notification to individuals, governmental authorities, supervisory bodies, the media and other parties pursuant to privacy and security laws and result in the loss or corruption of, or other damage to information, claims and litigation, indemnity obligations, damage to our reputation, and other liability. Our collaborators and other third parties we work with may also suffer similar security breaches of data that we rely on. Because the techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we and those we collaborate with may be unable to anticipate these techniques or implement adequate preventative measures. Even if identified, we may be unable to adequately investigate or remediate incidents or breaches due to attackers increasingly using tools and techniques that are designed to circumvent controls, to avoid detection, and to remove or obfuscate forensic evidence. In addition, if our employees or contractors fail to adhere to practices we have established to maintain a firewall between our internal drug discovery team and our teams that work with external individuals, including our collaborators, or if the technical solutions we have adopted to maintain the firewall malfunction, our collaborators may lose confidence in our ability to maintain the confidentiality of their intellectual property, we may have trouble attracting new collaborators, we may be subject to breach of contract claims by our collaborators, and we may suffer reputational and other harm as a result. Federal, state and foreign laws and regulations may also expose us to enforcement actions and investigations by regulatory authorities, and potentially result in regulatory penalties, fines and significant legal liability, if our information technology security efforts fail. Any or all of these issues could result in reputational damage or subject us to third-party lawsuits or other action or liability, which could adversely affect our operating results and the further development and commercialization of our products. Our insurance may not be adequate to cover losses associated with such events, and in any case, such insurance may not cover all of the types of costs, expenses, and losses we could incur to respond to and remediate a security breach.

Our precision neuroscience tools utilize third-party open source software, and any failure to comply with the terms of one or more of these open source software licenses could adversely affect our business, subject us to litigation, or create potential liability.

Our precision neuroscience tools include software licensed by third parties under any one or more open source licenses, and we expect to continue to incorporate open source software in our precision neuroscience tools in the future. While we have a process in place for monitoring the use of open source software by our employees, we cannot ensure we are aware of every instance of such use or have validated the quality or source of such software, or that we are in compliance with the terms of the applicable open source licenses or our current policies and procedures. There have been claims against companies that use open source software in their products and services asserting that the use of such open source software infringes the claimants' intellectual property rights. As a result, we could be subject to suits by third parties claiming that what we believe to be licensed open source software infringes such third parties' intellectual property rights. Additionally, if an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of one or more of these licenses, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages and required to comply with onerous conditions or restrictions on these solutions, which could disrupt the distribution and sale of these solutions. Litigation could be costly for us to defend, have a negative effect on our business, financial condition, and results of operations, or require us to devote additional research and development resources to change our precision neuroscience tools. Furthermore, these third-party open source providers could experience service outages, data loss, privacy breaches, cyber-attacks, and other events relating to the applications and services they provide that could diminish the utility of these services and which could harm our business as a result.

Use of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code, including with respect to security vulnerabilities where open source software may be more susceptible. In addition, certain open source licenses require that source code for software programs that interact with such open source software be made available to the public at no cost and that any modifications or derivative works to such open source software continue to be licensed under the same terms as the open source software license. The terms of various open source licenses to which we are subject have not been interpreted by courts in the relevant jurisdictions, and there is a risk that such licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to market or provide our software and data. By the terms of certain open source licenses, we could be required to release the source code of our proprietary software, and to make our proprietary software available under open source licenses, if we combine our proprietary software with open source software in a certain manner. In the event that portions of our proprietary software are determined to be subject to an open source license, we could be required to publicly release the affected portions of our source code, re-engineer all or a portion of our precision neuroscience tools, or otherwise be limited in the licensing of our precision neuroscience tools, each of which could reduce or eliminate the value of our precision neuroscience tools. Disclosing our proprietary source code could allow our competitors to create similar products with lower development effort and time and ultimately could result in a loss of sales. Furthermore, any such re-engineering or other remedial efforts could require significant additional research and development resources, and we may not be able to successfully complete any such re-engineering or other remedial efforts. Any of these events could create liability for us and damage our reputation, which could have a material adverse effect on our revenue, business, results of operations, and financial condition and the market price of our shares.

Risks Related to the Development and Clinical Testing of Our Product Candidates

Clinical and preclinical drug development is a lengthy and expensive process, with an uncertain outcome. Our clinical and preclinical programs have experienced delays and may experience additional delays or may never advance, which would adversely affect our ability to obtain regulatory approvals or commercialize our product candidates on a timely basis or at all, which could have an adverse effect on our business.

In order to obtain FDA approval to market our product candidates, we must demonstrate the safety and efficacy of our product candidates in humans to the satisfaction of the FDA. To meet these requirements, we will have to conduct adequate and well-controlled clinical trials. Clinical testing is expensive, time-consuming and subject to uncertainty. Conducting preclinical testing and clinical trials represents 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. Delays associated with programs for which we are directly conducting preclinical studies may cause us to incur additional operating expenses. The commencement and rate of completion of preclinical studies and clinical trials for a product candidate may be delayed by many factors, including, but not limited to:

- inability to generate sufficient preclinical or other *in vivo* or *in vitro* data to support the initiation of clinical studies;
- establishing the approvals needed to conduct preclinical studies in animals (e.g., Institutional Animal Care and Use Committee approval);
- timely completion of preclinical laboratory tests, animal studies and formulation studies in accordance with FDA's Good Laboratory Practice (GLP) requirements and other applicable regulations;
- approval by an independent Institutional Review Board (IRB) ethics committee at each clinical site before each trial may be initiated;
- delays in reaching a consensus with regulatory agencies on study design and obtaining regulatory authorization to commence clinical trials; delays in reaching agreement on acceptable terms with prospective CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical trial sites;
- delays in identifying, recruiting and training suitable clinical investigators;
- delays in recruiting suitable patients to participate in our clinical trials;
- delays in manufacturing, testing, releasing, validating or importing/exporting sufficient stable quantities of our product candidates for use in clinical trials or the inability to do any of the foregoing;
- insufficient or inadequate supply or quality of product candidates or other materials necessary for use in clinical trials, or delays in sufficiently developing, characterizing or controlling a manufacturing process suitable for clinical trials;
- imposition of a temporary or permanent clinical hold by regulatory authorities;
- developments on trials conducted by competitors for related technology that raises FDA or foreign regulatory authority concerns about risk to patients of the technology broadly, or if the FDA or a foreign regulatory authority finds that the investigational protocol or plan is clearly deficient to meet its stated objectives;
- delays in recruiting, screening and enrolling patients and delays caused by patients withdrawing from clinical trials or failing to return for post-treatment follow-up;
- difficulty collaborating with patient groups and investigators;
- failure by our CROs, other third parties or us to adhere to clinical trial protocols; failure to perform in accordance with the FDA's or any other regulatory authority's good clinical practice (GCP) requirements, or applicable regulatory guidelines in other countries;

- occurrence of adverse events associated with the product candidate that are viewed to outweigh its potential benefits, or occurrence of adverse events in trial of the same class of agents conducted by other companies;
- changes to the clinical trial protocols;
- clinical sites deviating from trial protocol or dropping out of a trial;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- changes in the standard of care on which a clinical development plan was based, which may require new or additional trials;
- selection of clinical endpoints that require prolonged periods of observation or analyses of resulting data;
- the cost of clinical trials of our product candidates being greater than we anticipate;
- clinical trials of our product candidates producing negative or inconclusive results, which may result in our deciding, or regulators requiring us, to conduct additional clinical trials or abandon development of such product candidates;
- transfer of manufacturing processes to larger-scale facilities operated by a contract manufacturing organization (CMO) and delays or failure by our CMOs or us to make any necessary changes to such manufacturing process; and
- third parties being unwilling or unable to satisfy their contractual obligations to us.

In addition, disruptions caused by the COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting or completing our planned and ongoing preclinical studies and clinical trials. In particular, as a result of the COVID-19 pandemic, we have experienced difficulty in accessing animal models, specifically non-human primate models, for the preclinical evaluation of our product candidates. Delays caused by the inability to access these models may cause our development timeline to be extended beyond what we anticipate.

Clinical trials must be conducted in accordance with the FDA and other applicable regulatory authorities' legal requirements, regulations or guidelines, and are subject to oversight by these governmental agencies and Ethics Committees or IRBs at the medical institutions where the clinical trials are conducted. We could also encounter delays if a clinical trial is suspended or terminated by us, by the IRBs of the institutions in which such trials are being conducted, by a Data Safety Monitoring Board for such trial or by the FDA or comparable foreign regulatory authorities. Such 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 or comparable foreign regulatory 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. For example, nonclinical safety pharmacology studies of NMRA-511 indicate that the dose limiting toxicities were CNS observations including tremor and convulsions, which led to a partial clinical hold on our IND that was removed when we amended the protocol to include tremors as a stopping criterion. More recently, in response to a pre-IND submission for a preclinical program focused on OSA, feedback from the FDA related to the target indication led us to cease that program. 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, 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 protocol as a result of differences in healthcare services or cultural customs, managing additional administrative burdens associated with foreign regulatory schemes, as well as political and economic risks relevant to such foreign countries.

Moreover, 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 or comparable foreign regulatory authorities. The FDA or comparable foreign regulatory authority may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the study. The FDA or comparable foreign regulatory authority may therefore question the integrity of the data generated at the applicable clinical 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 or comparable foreign regulatory authority, as the case may be, and may ultimately lead to the denial of marketing approval of one or more of our product candidates.

Delays in the completion of any preclinical studies or clinical trials of our product candidates will increase our costs, slow down our product candidate development and approval process and delay or potentially jeopardize our ability to commence product sales and generate product revenue. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates. Any delays to our preclinical studies or clinical trials that occur as a result could shorten any period during which we may have the exclusive right to commercialize our product candidates and our competitors may be able to bring products to market before we do, and the commercial viability of our product candidates could be significantly reduced. Any of these occurrences may harm our business, financial condition and prospects significantly.

Results of preclinical studies or clinical trials of any product candidates may not be predictive of the results of future preclinical studies or clinical trials.

To obtain the requisite regulatory approvals to market and sell any of our product candidates, we or any collaborator for such product candidate must demonstrate through extensive preclinical studies and clinical trials that the product candidate is safe and effective in humans. Before an IND can be submitted to the FDA and become effective, which is a prerequisite for conducting clinical trials on human subjects, a product candidate must successfully progress through extensive preclinical studies, which include preclinical laboratory testing, animal studies, and formulation studies in accordance with GLP. We cannot be certain of the timely completion or outcome of any preclinical studies. We also cannot predict if the FDA or comparable regulatory authorities will allow our proposed clinical programs to proceed or if the outcome of our preclinical studies will ultimately support further development of our programs. Additionally, we cannot be sure that we will be able to submit INDs or similar applications with respect to our product candidates on the timelines we expect, if at all, and we cannot be sure that submission of IND or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin.

Moreover, success in preclinical studies or early clinical trials does not ensure that later preclinical studies or clinical trials will be successful. A number of companies in the biotechnology and biopharmaceutical industries have suffered significant setbacks in clinical trials, even after positive results in earlier preclinical studies. These setbacks have been caused by, among other things, preclinical findings made while clinical trials were underway and safety or efficacy observations made in clinical trials, including previously unreported adverse events. The design of a clinical trial can determine whether its results will support approval of a product, and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. In addition, clinical and preclinical data are often susceptible to varying interpretations and analyses. Notwithstanding any potential promising results in earlier studies, we cannot be certain that we will not face similar setbacks. In addition, the results of our preclinical animal studies, including our non-human primate studies, may not be predictive of the results of outcomes in subsequent clinical trials on human subjects. Product candidates in clinical trials may fail to show the desired pharmacological properties or safety and efficacy traits despite having progressed through preclinical studies.

If we fail to receive positive results in preclinical studies or clinical trials of any product candidate, the development timeline and regulatory approval and commercialization prospects for that product candidate, and, correspondingly, our business and financial prospects, would be negatively impacted.

Our product candidates may have serious adverse, undesirable, or unacceptable side effects or other properties that may delay or prevent marketing approval. If such side effects are identified following approval, if any, the commercial profile of any approved label may be limited, or we may be subject to other significant negative consequences following marketing approval, if any.

Results of our clinical trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Undesirable side effects that may be caused by our product candidates could cause us or regulatory authorities to interrupt, delay, or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or comparable foreign authorities. The drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. 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 expectations for the product candidate if approved. We may also be required to modify our study plans based on findings in our ongoing preclinical studies or clinical trials. For example, in a rat study, at its highest dose (100 mg/kg/day) navacaprant was observed to have skin-related phototoxicity of erythema, edema and flaking additionally ocular phototoxicity (corneal edema). While no phototoxicity has been observed in our Phase 1 clinical trials, we monitored visual acuity and corneal integrity in our Phase 2 clinical trial to confirm there was no phototoxicity in humans. Though we did not observe any phototoxicity effects in our Phase 2 clinical trial, if phototoxicity is experienced in our later-stage clinical trials, the labeling implications of such safety warnings may limit any future product sales, if navacaprant is approved.

Further, clinical trials by their nature utilize a sample of the potential patient population. With a limited number of patients and limited duration of exposure, rare and severe side effects of our product candidates may only be uncovered with a significantly larger number of patients exposed to the product candidate. It is possible that as we test our product candidates in larger, longer and more extensive clinical trials, including with different dosing regimens, or as the use of these product candidates becomes more widespread if they receive regulatory approval, illnesses, injuries, discomforts and other adverse events that were observed in earlier trials, as well as conditions that did not occur or went undetected in previous trials, may be reported by subjects. If such side effects become known later in development or upon approval, if any, such findings may harm our business, financial condition and prospects significantly.

In the event that any of our product candidates receives marketing approval and we or others later identify undesirable or unacceptable side effects caused by such products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw or limit approvals of such products and require us to take our approved product off the market;
- regulatory authorities may require the addition of labeling statements, specific warnings, a contraindication or field alerts to physicians and pharmacies, or issue other communications containing warnings or other safety information about the product;
- regulatory authorities may require a medication guide outlining the risks of such side effects for distribution to patients, or that we implement a risk evaluation and mitigation strategy (REMS), plan to ensure that the benefits of the product outweigh its risks;

- we may be required to change the dose or the way the product is administered, conduct additional clinical trials, or change the labeling of the product;
- we may be subject to limitations on how we may promote or manufacture the product;
- sales of the product may decrease significantly;
- we may be subject to litigation or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us or our potential future partners from achieving or maintaining market acceptance of the affected product or could substantially increase commercialization costs and expenses, which in turn could delay or prevent us from generating significant revenue from the sale of any products.

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

From time to time, we may publicly disclose preliminary or topline data from our preclinical studies and clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or 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 published. As a result, topline and preliminary data should be viewed with caution until the final data are available.

From time to time, we may also disclose interim data from our preclinical studies and 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 interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock.

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 material or otherwise appropriate information to include in our disclosure. If the interim, topline, or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our vaccine candidates may be harmed, which could harm our business, prospects, financial condition or results of operations.

We will depend on enrollment and retention of patients in our clinical trials for our product candidates. If we experience delays or difficulties enrolling or retaining patients in our clinical trials, our research and development efforts and business, financial condition and results of operations could be materially adversely affected.

Successful and timely completion of clinical trials will require that we enroll and retain a sufficient number of patient candidates. Any clinical trials we conduct may be subject to delays for a variety of reasons, including as a result of patient enrollment taking longer than anticipated, patient withdrawal or adverse events. These types of developments could cause us to delay the trial or halt further development.

Our clinical trials will compete with other clinical trials that are in the same therapeutic areas as our product candidates, and this competition reduces the number and types of patients available to us, as some patients who might have opted to enroll in our trials may instead opt to enroll in a trial being conducted by one of our competitors.

Because the number of qualified clinical investigators and clinical trial sites is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial sites. The eligibility criteria of our clinical studies, and in particular, any eligibility criteria we may establish using our precision neuroscience approach, may limit the pool of available study participants as we will require that patients have specific characteristics that we can measure or to assure their disease is either severe enough or not too advanced to include them in a study.

Patient enrollment depends on many factors, including:

- the size and nature of the patient population;
- the severity of the disease under investigation;
- eligibility criteria for the trial;
- the proximity of patients to clinical sites;
- the design of the clinical protocol;
- the ability to obtain and maintain patient consents;
- the ability to recruit clinical trial investigators with the appropriate competencies and experience;
- the risk that patients enrolled in clinical trials will drop out of the trials before the administration of our product candidates or trial completion;
- the availability of competing clinical trials;
- the availability of new drugs approved for the indication the clinical trial is investigating; and
- clinicians’ and patients’ perceptions as to the potential advantages of the drug being studied in relation to other available therapies.

These factors may make it difficult for us to enroll enough patients to complete our clinical trials in a timely and cost-effective manner. Delays in the completion of any clinical trial of our product candidates will increase our costs, slow down our product candidate development and approval process, and delay or potentially jeopardize our ability to commence product sales and generate revenue. In addition, some of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our product candidates.

The estimates of market opportunity and forecasts of market growth included in this prospectus may prove to be smaller than we believe, and even if the markets in which we compete achieve the forecasted growth, our business may not grow at similar rates, or at all.

We intend to initially focus our product candidate development on treatments for various neuropsychiatric disorders and neurodegenerative diseases. Our projections of addressable patient populations within any particular disease state that may benefit from treatment with our product candidates are based on our estimates. Market opportunity estimates and growth forecasts included in this prospectus are subject to significant uncertainty and are based on assumptions and estimates. These estimates, which have been derived from a variety of sources, including scientific literature, surveys of clinics, patient foundations, and market research, may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these diseases. Additionally, the potentially addressable patient population for our product candidates may not ultimately be amenable to treatment with our product candidates. Our market opportunity may also be limited by future competitor treatments that enter the market. If any of our estimates prove to be inaccurate, the market opportunity for any product candidate that we or our strategic partners develop could be significantly diminished and have an adverse material impact on our business.

Even if approved, our products may not gain market acceptance, in which case we may not be able to generate product revenues, which will materially adversely affect our business, financial condition, and results of operations.

Even if the FDA or any comparable foreign regulatory authority approves the marketing of any product candidates that we develop, physicians, healthcare providers, patients, or the medical community may not accept or use them. Additionally, the product candidates that we are developing are based on our proprietary approach, which are new technologies. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenues or any profits from operations. The degree of market acceptance of any of our product candidates will depend on a variety of factors, including:

- the timing of market introduction of the product candidate as well as competitive products;
- the clinical indications for which a product candidate is approved;
- the terms of any approvals and the countries in which approvals are obtained;
- the number and clinical profile of competing products;
- the potential and perceived advantages of our product candidates over alternative treatments;
- our ability to provide acceptable evidence of safety and efficacy;
- the prevalence and severity of any side effects;
- the availability of an approved product candidate for use as a combination therapy;
- relative convenience and ease of administration;
- cost-effectiveness;
- patient diagnostics and screening infrastructure in each market;
- the effectiveness of sales and marketing efforts;
- approval of other new therapies for the same indications;
- marketing and distribution support;
- adverse publicity about our product candidates;
- availability of coverage, adequate reimbursement and sufficient payment from health maintenance organizations and other insurers, both public and private, for our product candidates, or the procedures utilizing our product candidates, if approved;
- the willingness of patients to pay out-of-pocket in the absence of coverage by third-party payors and government authorities; and
- other potential advantages over alternative treatment methods.

If our product candidates fail to gain market acceptance, this will have a material adverse impact on our ability to generate revenues to provide a satisfactory, or any, return on our investments. Even if some products achieve market acceptance, the market may prove not to be large enough to allow us to generate significant revenues.

We currently have no marketing, sales, or distribution infrastructure and we intend to either establish a sales and marketing infrastructure or outsource this function to a third party. Either of these commercialization strategies carries substantial risks to us.

Given our stage of development, we currently have no marketing, sale, and distribution capabilities. If any of our product candidates complete clinical development and are approved, we intend to either establish a sales and marketing organization with technical expertise and supporting distribution capabilities to commercialize our product candidates in a legally compliant manner, or to outsource this function to a third party. There are risks involved if we decide to establish our own sales and marketing capabilities or enter into arrangements with third parties to perform these services. To the extent that we enter into collaboration agreements with respect to marketing, sales or distribution, our product revenue may be lower than if we directly marketed or sold any approved products. Such collaborative arrangements with partners may place the commercialization of our products outside of our control and would make us subject to a number of risks including that we may not be able to control the amount or timing of resources that our collaborative partner devotes to our products or that our collaborator’s willingness or ability to complete its obligations, and our obligations under our arrangements may be adversely affected by business combinations or significant changes in our collaborator’s business strategy.

If we are unable to enter into these arrangements on acceptable terms or at all, we may not be able to successfully commercialize any approved products. If we are not successful in commercializing any approved products, either on our own or through collaborations with one or more third parties, our future product revenue will suffer and we may incur significant additional losses, which would have a material adverse effect on our business, financial condition, and results of operations.

We may become exposed to costly and damaging liability claims, either when testing our product candidates in the clinic or at the commercial stage, and our product liability insurance may not cover all damages from such claims.

We are exposed to potential product liability and professional indemnity risks that are inherent in the research, development, manufacturing, marketing, and use of biopharmaceutical products. While we currently have no products 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. Any claims against us, regardless of their merit, could be difficult and costly to defend and could materially adversely affect the market for our product candidates or any prospects for commercialization of our product candidates.

Although the clinical trial process is designed to identify and assess potential side effects, it is always possible that a drug, even after regulatory approval, may exhibit unforeseen side effects. If any of our product candidates were to cause adverse side effects during clinical trials or after approval of the product candidate, we may be exposed to substantial liabilities. Physicians and patients may not comply with any warnings that identify known potential adverse effects and patients who should not use our product candidates.

Even successful defense against product liability claims would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in: decreased demand for our product candidates; injury to our reputation; withdrawal of clinical trial participants; initiation of investigations by regulators; costs to defend the related litigation; a diversion of management’s time and our resources; substantial monetary awards to trial participants or patients; product recalls, withdrawals or labeling, marketing or promotional restrictions; loss of revenue; exhaustion of any available insurance and our capital resources; the inability to commercialize any product candidate; and a decline in our share price.

Although we maintain adequate product liability insurance for our product candidates, it is possible that our liabilities could exceed our insurance coverage. We intend to expand our insurance coverage to include the sale of commercial products if we obtain marketing approval for any of our product candidates. However, we may be unable to maintain insurance coverage at a reasonable cost or obtain insurance coverage that will be adequate to satisfy any liability that may arise. If a successful 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.

Risks Related to Our Regulatory Environment

The development and commercialization of drug products is subject to extensive regulation, and the regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time-consuming, and inherently unpredictable. If we are ultimately unable to obtain regulatory approval for our product candidates on a timely basis if at all, our business will be substantially harmed.

The clinical development, manufacturing, labeling, packaging, storage, recordkeeping, advertising, promotion, export, import, marketing, distribution, adverse event reporting, including the submission of safety and other post-marketing information and reports, and other possible activities relating to our product candidates are subject to extensive regulation. In the United States, obtaining marketing approval for a new drug requires the submission of a New Drug Application (NDA) to the FDA, and we are not permitted to market any product candidate in the United States until we obtain approval from the FDA of the NDA for that product candidate. An NDA must be supported by extensive clinical and preclinical data, as well as extensive information regarding pharmacology, chemistry, manufacturing, and controls. Outside the United States, many comparable foreign regulatory authorities employ similar approval processes.

We have not previously submitted an NDA to the FDA or similar marketing application to comparable foreign authorities, for any product candidate, and we cannot be certain that any of our product candidates will receive regulatory approval. Obtaining approval of an NDA can be a lengthy, expensive, and uncertain process, and as a company we have no experience with the preparation of an NDA submission or any other marketing application. In addition, the FDA has the authority to require a REMS as part of an NDA or after approval, which may impose further requirements or restrictions on the distribution or use of an approved drug, such as limiting prescribing to certain physicians or medical centers that have undergone specialized training, limiting treatment to patients who meet certain safe-use criteria and requiring treated patients to enroll in a registry.

Our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a product candidate’s clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our product candidates may not be sufficient to support the submission of an NDA or other submission or to obtain regulatory approval in the United States or elsewhere, or regulatory authorities may not accept a submission due to, among other reasons, the content or formatting of the submission;
- the FDA or comparable foreign regulatory authorities may fail to approve our manufacturing processes or facilities or those of third-party manufacturers with which we contract for clinical and commercial supplies; and

- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

This lengthy approval process, as well as the unpredictability of future clinical trial results, may result in our failing to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations, and prospects. The FDA and comparable foreign regulatory authorities have substantial discretion in the approval process, and determining when or whether regulatory approval will be obtained for any of our product candidates. For example, regulatory authorities in various jurisdictions have in the past had, and may in the future have, differing requirements for, interpretations of and opinions on our clinical and preclinical data. As a result, we may be required to conduct additional preclinical studies, alter our proposed clinical trial designs, or conduct additional clinical trials to satisfy the regulatory authorities in each of the jurisdictions in which we hope to conduct clinical trials and develop and market our products, if approved. Further, even if we believe the data collected from clinical trials of our product candidates are promising, such data may not be sufficient to support approval by the FDA or any comparable foreign regulatory authority.

In addition, even if we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our products, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Even if our product candidates obtain regulatory approval, we will be subject to ongoing obligations and continued regulatory review, which may result in significant additional expense. Additionally, our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.

If the FDA or a comparable foreign regulatory authority approves any of our product candidates, the manufacturing processes, testing, safety, efficacy, labeling, packaging, distribution, import, export, adverse event reporting, storage, advertising, promotion, and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with current good manufacturing practices (cGMPs) and GCPs for any clinical trials that we conduct post-approval, all of which may result in significant expense and limit our ability to commercialize such products. In addition, any regulatory approvals that we receive for our product candidates may also 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.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures conform to cGMP regulations. 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 approved marketing application. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, quality control, and distribution.

If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing or labeling of a product, such regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things:

- issue warning letters or untitled letters;

- issue, or require us to issue, safety-related communications, such as safety alerts, field alerts, “Dear Doctor” letters to healthcare professionals, or import alerts;
- impose civil or criminal penalties;
- suspend, limit, or withdraw regulatory approval;
- suspend any of our preclinical studies and clinical trials;
- refuse to approve pending applications or supplements to approved applications;
- impose restrictions on our operations, including closing our and our contract manufacturers’ facilities; or
- seize or detain products, refuse to permit the import or export of products, or require us to conduct a product recall.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate adverse publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from our products, if approved. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected.

Moreover, the policies of the FDA and of 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. We cannot predict the likelihood, nature, or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may be subject to enforcement action and we may not achieve or sustain profitability.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. If we are found or alleged to have improperly promoted off-label uses, we may become subject to significant liability.

The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about drug products. These regulations include standards and restrictions for direct-to-consumer advertising, industry-sponsored scientific and educational activities, promotional activities involving the internet and off-label promotion. For example, any regulatory approval that the FDA grants is limited to those indications and patient populations for which a drug is deemed to be safe and effective by the FDA.

While physicians in the United States may choose, and are generally permitted, to prescribe products in their independent medical judgment for uses that are not described in the product’s labeling and for uses that differ from those tested in clinical trials and approved by the regulatory authorities, our ability to promote any of our products candidates, if approved, will be narrowly limited to those indications and populations that are specifically approved by the FDA or such other regulatory agencies, and if we are found to have promoted such off-label uses, we may become subject to significant liability. For example, the federal government has levied large civil and criminal fines against companies for alleged improper promotion and has enjoined several companies from engaging in off-label promotion. The government has also required companies to enter into consent decrees or imposed permanent injunctions under which specified promotional conduct is changed or curtailed. If we cannot successfully manage the promotion of our product candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

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 to review and approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the 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 or modifications to approved 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 has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities. In addition, during the COVID-19 pandemic, the FDA postponed most inspections of domestic and foreign manufacturing facilities at various points. Even though the FDA has resumed standard inspection operations of domestic facilities where feasible, the FDA has continued to monitor and implement changes to its inspectional activities to ensure the safety of its employees and those of the firms it regulates, and any resurgence of COVID-19 or emergence of new variants may lead to further inspectional delays. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

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 impair our ability to compete in domestic and international markets. We can face criminal liability and other serious consequences for violations, which can harm our business.

We are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls, the U.S. Foreign Corrupt Practices Act of 1977, as amended (FCPA), the U.S. domestic bribery statute contained in 18 U.S.C. § 201, the U.S. Travel Act, the USA PATRIOT Act, and other state and national anti-bribery and anti-money laundering laws in the countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors, and other collaborators from authorizing, promising, offering, or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector. We may engage third parties to sell our products outside the United States, to conduct clinical trials, and/or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. We have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. We can be held liable for the corrupt or other illegal activities of our employees, agents, contractors, and other collaborators, even if we do not explicitly authorize or have actual knowledge of such activities. Any violations of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences.

Our research and development activities could be affected or delayed as a result of possible restrictions on animal testing.

Certain laws and regulations require us to test our product candidates on animals before initiating clinical trials involving humans. Animal testing activities have been the subject of controversy and adverse publicity. Animal rights groups and other organizations and individuals have attempted to stop animal testing activities by pressing for legislation and regulation in these areas and by disrupting these activities through protests and other means. To the extent the activities of these groups are successful, our research and development activities may be interrupted, delayed, or become more expensive.

Our business operations and current and future relationships with healthcare professionals, principal investigators, consultants, vendors, customers, and third-party payors in the United States and elsewhere are subject to applicable anti-kickback, fraud and abuse, false claims, physician payment transparency, and other healthcare laws and regulations, which could expose us to substantial penalties, contractual damages, reputation harm, administrative burdens, and diminished profits.

Healthcare providers, healthcare facilities and institutions 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, healthcare facilities and institutions, principal investigators, consultants, customers, and third-party payors may expose us to broadly applicable fraud and abuse and other healthcare laws, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, that may constrain the business or financial arrangements and relationships through which we research, sell, market, and distribute any product candidates for which we obtain marketing approval. In addition, we may be subject to physician payment transparency laws and regulation by the federal government and by the states and foreign jurisdictions in which we conduct our business. The applicable federal, state, and foreign healthcare laws that affect our ability to operate include, but are not limited to, the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons or entities from knowingly and willfully soliciting, offering, receiving, or providing any remuneration (including any kickback, bribe, or certain rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, 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 any U.S. federal healthcare program, such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the U.S. federal civil and criminal false claims laws, including the civil False Claims Act, which prohibit, among other things, including through civil whistleblower or qui tam actions, individuals or entities from knowingly presenting, or causing to be presented, to the U.S. federal government, claims for payment or approval that are false or fraudulent, knowingly making, using, or causing to be made or used, a false record or statement material to a false or fraudulent claim, or from knowingly making a false statement to avoid, decrease, or conceal an obligation to pay money to the U.S. federal government. Pharmaceutical manufacturers can cause false claims to be presented to the U.S. federal government by, among other things, engaging in impermissible marketing practices, such as the off-label promotion of a product for an indication for which it has not received FDA approval. In addition, the government may assert that a claim including items and services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;
- the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA), which imposes criminal and civil liability for, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, or knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false statement, in connection with the delivery of, or payment for, healthcare benefits, items, or services. Similar to the federal Anti-

Kickback Statute, a person or entity does not need to have actual knowledge of the healthcare fraud statute implemented under HIPAA or specific intent to violate it in order to have committed a violation;

- the U.S. Physician Payments Sunshine Act and its implementing regulations, which requires, among other things, certain manufacturers of drugs and devices that are reimbursable under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare and Medicaid Services, or CMS, information related to certain payments and other transfers of value to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors), other healthcare professionals (such as physician assistants and nurse practitioners), and teaching hospitals, as well as ownership and investment interests held by such physicians and their immediate family members;
- analogous U.S. state laws and regulations, including: state anti-kickback and false claims laws, which may apply to our business practices, including but not limited to, research, distribution, sales and marketing arrangements, and claims involving healthcare items or services reimbursed by any third-party payor, including private 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 U.S. federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws and regulations that require drug manufacturers to file reports relating to pricing and marketing information, which requires tracking gifts 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; and
- similar healthcare laws and regulations in foreign jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers.

Ensuring that our internal operations and future business arrangements with third parties comply with applicable healthcare laws and regulations will involve substantial costs. It is not always possible to identify and deter employee misconduct or business noncompliance, and the precautions we take to detect and prevent inappropriate conduct 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. Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. We have entered into consulting and scientific advisory board arrangements with physicians and other healthcare providers, including some who could influence the use of our product candidates, if approved. Compensation under some of these arrangements includes the provision of stock or stock options in addition to cash consideration. Because of the complex and far-reaching nature of these laws, it is possible that governmental authorities could conclude that our payments to physicians may not be fair market value for *bona fide* services or that our business practices do not comply with current or future statutes, regulations, agency guidance or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that may apply to us, we may be subject to significant penalties, including civil, criminal, and administrative penalties, damages, fines, exclusion from government-funded healthcare programs, such as Medicare and Medicaid, or similar programs in other countries or jurisdictions, integrity oversight and reporting obligations to resolve allegations of noncompliance, disgorgement, individual imprisonment, contractual damages, reputational harm, diminished profits, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs and imprisonment, which could affect our ability to operate our business. Further, defending against any such actions can be costly, time-consuming and may require significant personnel resources. Therefore, even if we are successful in defending against any such actions that may be brought against us, our business may be impaired.

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

We are exposed to the risk of employee fraud or other misconduct. We cannot ensure that our compliance controls, policies, and procedures will in every instance protect us from acts committed by our employees, agents, contractors, or collaborators that would violate the laws or regulations of the jurisdictions in which we operate, including, without limitation, employment, foreign corrupt practices, trade restrictions and sanctions, environmental, competition, and patient privacy and other privacy laws and regulations. Misconduct by employees could include failures to comply with FDA regulations, provide accurate information to the FDA, comply with manufacturing standards we may establish, comply with federal and state healthcare fraud and abuse laws and regulations, report financial information or data accurately, or disclose unauthorized activities to us. In particular, 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, labeling, marketing and promotion, sales commission, customer incentive programs, and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter employee misconduct, 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.

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 material and adverse effect on our business, financial condition, results of operations and prospects, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, individual imprisonment, disgorgement of profits, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, additional reporting or oversight obligations if we become subject to a corporate integrity agreement or other agreement to resolve allegations of noncompliance with the law, and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and pursue our strategy.

Current and future legislation may increase the difficulty and cost for us and any future collaborators to obtain marketing approval of and commercialize our product candidates and affect the prices we, or they, may obtain.

In the United States and other jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes to the healthcare system that could affect our future results of operations. In particular, there have been and continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs and improve the quality of healthcare. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the ACA), was enacted, which substantially changed the way healthcare is financed by both governmental and private payors. Among the provisions of the ACA of importance to the biopharmaceutical and biotechnology industries are the following:

- manufacturers and importers of certain branded prescription drugs are required to pay an annual, nondeductible fee according to their market share of all such sales;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program, to 23.1% of the average manufacturer price for most branded drugs, and to 13.0% for generic drug;
- a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for certain drugs, including our product candidates, that are inhaled, infused, instilled, implanted, or injected;

- extension of manufacturers' Medicaid rebate liability to covered outpatient drugs dispensed to individuals who are enrolled in Medicaid managed care organizations;
- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability;
- expansion of the entities eligible for discounts under the 340B drug pricing program;
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and
- establishment of a Center for Medicare and Medicaid Innovation at CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA. On June 17, 2021, the U.S. Supreme Court dismissed the most recent judicial challenge to the ACA brought by several states without specifically ruling on the constitutionality of the ACA. Thus, the ACA remains in effect in its current form. Prior to the Supreme Court's decision, President Biden issued an Executive Order to initiate a special enrollment period from February 15, 2021 through August 15, 2021 for purposes of obtaining health insurance coverage through the ACA marketplace. The Executive Order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. On August 16, 2022, President Biden signed the Inflation Reduction Act of 2022 (the IRA) into law, which, among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. It is unclear how other healthcare reform measures of the Biden administration or other efforts, if any, to challenge, repeal or replace the ACA, will impact our business.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. For example, on March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 into law, which eliminates the statutory Medicaid drug rebate cap, currently set at 100% of a drug's average manufacturer price, beginning January 1, 2024. Further, in August 2011, the Budget Control Act of 2011, among other things, included aggregate reductions of Medicare payments to providers. These reductions went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect until 2032, with the exception of a temporary suspension from May 1, 2020 through March 31, 2022, unless additional action is taken by Congress.

Moreover, heightened governmental scrutiny is likely to continue over the manner in which manufacturers set prices for their marketed products, which already has resulted in several Congressional inquiries, proposed and enacted legislation and executive orders issued by the President 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 drug products. Most recently, the IRA marks the most significant action by Congress with respect to the biopharmaceutical industry since adoption of the ACA in 2010. Among other things, the IRA requires manufacturers of certain drugs to engage in price negotiations with Medicare (beginning in 2026), imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation (first due in 2023), and replaces the Part D coverage gap discount program with a new discounting program (beginning in 2025). Manufacturers that fail to comply with the IRA may be subject to various penalties, including civil monetary penalties. The IRA permits the Secretary of the Department of Health and Human Services (HHS) to implement many of these provisions through guidance, as opposed to regulation, for the initial years. For that and other reasons, it is currently unclear how the IRA will be effectuated, and while the impact of the IRA on the biopharmaceutical industry cannot yet be fully determined, it is likely to be significant.

Additionally, individual states in the United States have passed legislation and implemented regulations designed to control biopharmaceutical product pricing and costs. Similar developments have occurred outside of the United States, including in the European Union where healthcare budgetary constraints have resulted in restrictions on the pricing and reimbursement of medicines by relevant health service providers. To obtain reimbursement or pricing approval in some European Union member states, we may be required to conduct studies that compare the cost-effectiveness of our product candidates to other therapies that are considered the local standard of care.

We cannot predict the likelihood, nature, or extent of government regulation that may arise from the IRA or future legislation or administrative action in the United States or any other jurisdiction. If we or any third parties we may engage are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or such third parties are not able to maintain regulatory compliance, our product candidates may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability.

Even if we are able to commercialize any product candidate, coverage and adequate reimbursement may not be available or such product candidate may become subject to unfavorable pricing regulations or third-party coverage and reimbursement policies, which would harm our business.

The regulations that govern regulatory approvals, pricing, and reimbursement for drug products vary widely from country to country. Some countries require approval of the sale price of a drug product before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some foreign markets, prescription drug product pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if our product candidates obtain regulatory approval.

Our ability to commercialize any products successfully also will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from third-party payors, such as government authorities, private health insurers, and other organizations. Even if we succeed in bringing one or more products to the market, these products may not be considered cost-effective, and the amount reimbursed for any products may be insufficient to allow us to sell our products on a competitive basis. Because our programs are in the relatively early stages of development, we are unable at this time to determine their cost effectiveness or the likely level or method of coverage and reimbursement. Increasingly, the third-party payors who reimburse patients or healthcare providers are requiring that drug companies provide them with predetermined discounts from list prices, and are seeking to reduce the prices charged or the amounts reimbursed for drug products. If the price we are able to charge for any products we develop, or the coverage and reimbursement provided for such products, is inadequate in light of our development and other costs, our return on investment could be affected adversely.

There may be significant delays in obtaining reimbursement for newly-approved drug products, and coverage may be more limited than the purposes for which the drug product is approved by the FDA or comparable foreign regulatory authorities. Moreover, eligibility for reimbursement does not imply that any drugs product will be reimbursed in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution.

Interim reimbursement levels for new drug products, if applicable, may also be insufficient to cover our costs and may not be made permanent. Reimbursement rates may be based on payments allowed for lower cost drug products that are already reimbursed, may be incorporated into existing payments for other services and may reflect budgetary constraints or imperfections in Medicare data. Net prices for drug products may be reduced by mandatory discounts or rebates required by third-party payors and by any future relaxation of laws that presently restrict imports of drug products from countries where they may be sold at lower prices than in the

United States. Obtaining coverage and adequate reimbursement for our product candidates may be particularly difficult because of the higher prices often associated with drugs administered under the supervision of a physician.

Further, no uniform policy for coverage and reimbursement exists in the United States, and coverage and reimbursement can differ significantly from payor to payor. Third-party payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates, but also have their own methods and approval process apart from Medicare determinations. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our product candidates to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained in the first instance. Decisions regarding the extent of coverage and amount of reimbursement to be provided for any product candidates that we develop will be made on a payor-by-payor basis. One payor's determination to provide coverage for a drug does not assure that other payors will also provide coverage and adequate reimbursement for the drug. Additionally, a third-party payor's decision to provide coverage for a therapy does not imply that an adequate reimbursement rate will be approved.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal, and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. The continuing efforts of the government, insurance companies, managed care organizations, and other payors of healthcare services to contain or reduce costs of healthcare and/or impose price controls may adversely affect:

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

Our inability to promptly obtain coverage and adequate reimbursement from both third-party payors for the product candidates that we may develop and for which we obtain regulatory approval could have a material and adverse effect on our business, financial condition, results of operations, and prospects.

We face potential liability related to the privacy of health information we utilize in the development of product candidates, as well as information we obtain from clinical trials sponsored by us from research institutions and directly from individuals.

The global data protection landscape is rapidly evolving and we and our partners and vendors are, or may become, subject to various federal, state, and foreign data protection laws and regulations (i.e., laws and regulations that address personal information, data privacy and security). Implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, and we cannot yet determine the impact future laws, regulations, standards, or perception of their requirements may have on our business. This evolution may create uncertainty in our business, affect our ability to operate in certain jurisdictions or to collect, store, transfer use and share personal information, necessitate the acceptance of more onerous obligations in our contracts, result in liability or impose additional costs on us. The cost of compliance with these laws, regulations and standards is high and is likely to increase in the future. If we fail to comply with these laws and regulations, we may be subject to litigation, regulatory investigations, enforcement notices, enforcement actions, fines, and criminal or civil penalties, as well as adverse publicity and a potential loss of business.

In the United States, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws and regulations that govern the collection, use, disclosure, and protection of health-related and other personal information could apply to our operations or the operations of our partners. For example, most healthcare providers, including research institutions from which we obtain patient health information, are subject to privacy and security regulations promulgated under HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009. HIPAA imposes obligations on “covered entities,” including certain healthcare providers, health plans and healthcare clearinghouses, as well as their respective “business associates” that create, receive, maintain or transmit individually identifiable health information for or on behalf of a covered entity, with respect to safeguarding the privacy, security and transmission of individually identifiable health information. We could potentially face substantial criminal or civil penalties if we violate HIPAA. For example, we could be subject to significant penalties if we knowingly receive individually identifiable health information from a HIPAA-covered healthcare provider or research institution that has not satisfied HIPAA’s requirements for disclosure of individually identifiable health information, or otherwise violate applicable HIPAA requirements related to the protection of such information. Even when HIPAA does not apply, according to the Federal Trade Commission (FTC) violating consumers’ privacy rights or failing to take appropriate steps to keep consumers’ personal information secure may constitute a violation of the FTC Act. 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.

For our clinical trials, we may maintain sensitive personal information, including health information, that we receive throughout the clinical trial process, in the course of our research collaborations, and directly from individuals (or their healthcare providers) who enroll in our patient assistance programs. As such, we may be subject to state laws and regulations governing the privacy and security of personal information or requiring notification of affected individuals and state regulators in the event of a breach of personal information. Such laws and regulations will be subject to interpretation by various courts and other governmental authorities, thus creating potentially complex compliance issues for us and our future customers and strategic partners. For example, the California Consumer Privacy Act (CCPA) went into effect on January 1, 2020, which establishes additional data privacy rights for residents of the State of California. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that has increased the likelihood of, and risks associated with, data breach litigation. Although there are limited exemptions for health-related information, including clinical trial data, the CCPA may increase our compliance costs and potential liability. Further, the California Privacy Rights Act (CPRA) generally went into effect on January 1, 2023, and significantly amends the CCPA. The CPRA imposes additional data protection obligations on covered businesses, including additional consumer rights processes, limitations on data uses, new audit requirements for higher risk data, and opt outs for certain uses of sensitive data. It also creates a new California data protection agency authorized to issue substantive regulations and could result in increased privacy and information security enforcement. Additional compliance investment and potential business process changes may also be required. New legislation proposed or enacted in various other states will continue to shape the data privacy environment nationally. For example, similar laws have passed in Virginia, Colorado, Connecticut and Utah.

Complying with U.S. federal and state data privacy and security laws, regulations, amendments to or re-interpretations of existing data privacy and security laws and regulations and contractual or other obligations relating to privacy, data protection, data transfers, data localization or information security may require us to make changes to our processes, incur substantial operational costs, modify our data practices and policies and restrict our business operations. Any actual or perceived failure by us to comply with these laws, regulations or other obligations may lead to significant fines, penalties, regulatory investigations, lawsuits, significant costs for remediation, damage to our reputation or other liabilities.

We are also or may become subject to rapidly evolving data protection laws, rules and regulations in foreign jurisdictions. Any clinical trial programs and research collaborations that we engage in outside the United States may implicate international data protection laws, including, in the European Economic Area (EEA), the General

Data Protection Regulation (GDPR), which became effective in 2018. The GDPR imposes stringent operational requirements for processors and controllers of the personal data of individuals within the EEA. Among other things, the GDPR requires detailed notices for clinical trial subjects and investigators, as well as requirements regarding the security of personal data and notification of data processing obligations or security incidents to appropriate data protection authorities or data subjects. If our privacy or data security measures fail to comply with the GDPR requirements, we may be subject to litigation, regulatory investigations, enforcement notices, and/or enforcement actions requiring us to change the way we use personal data and/or fines. In addition to statutory enforcement, a personal data breach can lead to adverse publicity and a potential loss of business. Further, from January 1, 2021, companies have had to comply with both the GDPR and the United Kingdom GDPR (UK GDPR), which, together with the amended UK Data Protection Act 2018, imposes separate but similar obligations to those under the GDPR. The UK GDPR mirrors the fines under the GDPR, imposing fines up to the greater of €20 million (£17.5 million) or 4% of global turnover.

Among other requirements, the GDPR regulates transfers of personal data subject to the GDPR to third countries that have not been found to provide adequate protection to such personal data, including the United States, and the efficacy and longevity of current transfer mechanisms between the EEA and the United States remains uncertain. Case law from the Court of Justice of the European Union (“CJEU”) states that reliance on the standard contractual clauses - a standard form of contract approved by the European Commission as an adequate personal data transfer mechanism - alone may not necessarily be sufficient in all circumstances and that transfers must be assessed on a case-by-case basis. President Biden signed an Executive Order on October 7, 2022 on ‘Enhancing Safeguards for United States Signals Intelligence Activities’ which introduced new redress mechanisms and binding safeguards to address the concerns raised by the CJEU in relation to data transfers from the EEA to the United States and which formed the basis of the new EU-US Data Privacy Framework (“DPF”), as released on December 13, 2022. The European Commission adopted its Adequacy Decision in relation to the DPF on July 10, 2023, rendering the DPF effective as an EU GDPR transfer mechanism to U.S. entities self-certified under the DPF. We expect the existing legal complexity and uncertainty regarding international personal data transfers to continue. In particular, we expect the DPF Adequacy Decision to be challenged and international transfers to the United States and to other jurisdictions more generally to continue to be subject to enhanced scrutiny by regulators. As the regulatory guidance and enforcement landscape in relation to data transfers continue to develop, we could suffer additional costs, complaints, and/or regulatory investigations or fines, and/or if we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations, and could adversely affect our financial results. These laws and regulations may apply, not only to us, but also to vendors that store or otherwise process data on our behalf, such as information technology vendors. If such a vendor misuses data we have provided to it, or fails to safeguard such data, we may be subject to litigation, regulatory investigations, enforcement notices, and/or enforcement actions, as well as adverse publicity and a potential loss of business.

We are likely to be required to expend significant capital and other resources to ensure ongoing compliance with applicable privacy and data security laws. Claims that we have violated individuals’ privacy rights or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend, and could result in adverse publicity that could harm our business. Moreover, even if we take all necessary action to comply with regulatory requirements, we could be subject to a hack or data breach, which could subject us to fines and penalties, as well as reputational damage.

Although we work to comply with applicable laws, regulations and standards, our contractual obligations and other legal obligations, these requirements are evolving and may be modified, interpreted and applied in an inconsistent manner from one jurisdiction to another, and may conflict with one another or other legal obligations with which we must comply. If we fail to comply with applicable federal, state, local, or foreign regulatory requirements, we could be subject to a range of regulatory actions, including penalties and fines, that may also impact our compliance with contracts entered into with our partners, and that could affect our or any collaborators’ ability to seek to commercialize our clinical candidates. Any threatened or actual government enforcement action could also generate adverse publicity and require that we devote substantial resources that could otherwise be used in other aspects of our business.

Risks Related to Our Dependence on Third Parties

We contract with third parties for the manufacture of our product candidates. This reliance on third parties increases the risk that we will not have sufficient quantities of our product candidates or drugs or such quantities at an acceptable cost, which could delay, prevent or impair our development or commercialization efforts.

We do not currently have the infrastructure or internal capability to manufacture supplies of our product candidates for use in development and commercialization. We rely, and expect to continue to rely, on third-party manufacturers for the production of our product candidates for preclinical studies and clinical trials under the guidance of members of our organization. We do not have long-term supply agreements. Furthermore, while the raw materials for our product candidates are sourced from multiple suppliers, in some cases, the drug product is sourced from a single-source supplier. If we were to experience an unexpected loss of supply of any of our product candidates or any of our future product candidates for any reason, whether as a result of manufacturing, supply or storage issues or otherwise, we could experience delays, disruptions, suspensions or terminations of, or be required to restart or repeat, any pending or ongoing clinical trials.

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

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

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

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

Supply sources could be interrupted from time to time and, if interrupted, there is no guarantee that supplies could be resumed within a reasonable time frame and at an acceptable cost or at all.

We rely on our manufacturers to purchase from third-party suppliers the materials necessary to produce our product candidates for our preclinical studies and intend to continue to rely on these third parties for any clinical trials that we undertake. There are a limited number of suppliers for raw materials that we use to manufacture our drugs and there may be a need to assess alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce our product candidates for our preclinical studies, clinical trials, and if approved, ultimately for commercial sale. We do not have any control over the process or timing of the acquisition of these raw materials by our manufacturers. Moreover, we currently do not have any agreements for the commercial production of these raw materials. We cannot be sure that these suppliers will remain in business, or that they will not be purchased by one of our competitors or another company that is not interested in continuing to produce these materials for our intended purpose. In addition, the lead time needed to establish a relationship with a new supplier can be lengthy, and we may experience delays in meeting demand in the event a new supplier must be used. The time and effort to qualify a new supplier could result in additional costs, diversion of resources, or reduced manufacturing yields, any of which would negatively impact our operating results. Although we generally do not begin a clinical trial unless we believe we have a sufficient supply of a product candidate to complete the clinical trial, any significant delay in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to replace a third-party manufacturer could considerably delay completion of our clinical trials, product testing, and potential regulatory approval of our product candidates. If our manufacturers or we are unable to purchase these raw materials after regulatory approval has been obtained for our product candidates, the commercial launch of our product candidates would be delayed or there would be a shortage in supply, which would impair our ability to generate revenues from the sale of our product candidates.

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

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

Further, these investigators and CROs are not our employees and we will not be able to control, other than by contract, the amount of resources, including time, that they devote to our product candidates and clinical trials. If independent investigators or CROs fail to devote sufficient resources to the development of our product candidates, or if their performance is substandard, it may delay or compromise the prospects for approval and commercialization of any product candidates that we develop. In addition, the use of third-party service providers may require us to disclose our proprietary information to these parties, which could increase the risk that this information will be misappropriated. Additionally, disruptions caused by the COVID-19 pandemic may increase the likelihood that our CROs encounter difficulties or delays in initiating, enrolling, conducting, or completing our planned clinical trials. In particular, as a result of the pandemic, we have experienced difficulty in accessing animal models, specifically non-human primate models, for the preclinical evaluation of our product candidates. Delays caused by the inability to access these models may cause our development timeline to be extended beyond what we anticipate.

Our CROs have the right to terminate their agreements with us in the event of an uncured material breach. In addition, some of our CROs have an ability to terminate their respective agreements with us if it can be reasonably demonstrated that the safety of the subjects participating in our clinical trials warrants such termination, if we make a general assignment for the benefit of our creditors, or if we are liquidated. Further, some of these agreements may also be terminated by such third parties on short notice, or under certain circumstances, including our insolvency.

There is a limited number of third-party service providers that specialize or have the expertise required to achieve our business objectives. Many of the third parties with whom we contract 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 that could harm our competitive position. If any of our relationships with these third-party laboratories, CROs or clinical investigators terminate, we may not be able to enter into arrangements with alternative laboratories, CROs, or investigators or to do so in a timely manner or on commercially reasonable terms. If laboratories, CROs, or clinical investigators do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our preclinical or clinical protocols, regulatory requirements or for other reasons, our preclinical or clinical trials may be extended, delayed, or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase, and our ability to generate revenues could be delayed. Switching or adding additional laboratories or CROs (or investigators) involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new laboratory or CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Additionally, CROs may lack the capacity to absorb higher workloads or take on additional capacity to support our needs. Though we carefully manage our relationships with our contracted laboratories and CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition, and prospects.

We may not realize the benefits of any collaborative or licensing arrangement, and if we fail to enter into new strategic relationships our business, financial condition, commercialization prospects, and results of operations may be materially adversely affected.

Our product development programs and the potential commercialization of our product candidates will require substantial additional cash to fund expenses. Therefore, for some of our product candidates, we may in the future decide to enter into collaborations with pharmaceutical or biopharmaceutical companies for the development and potential commercialization of those product candidates.

We face significant competition in seeking appropriate collaborators. Collaborations are complex and time-consuming to negotiate and document. We may also be restricted under existing and future collaboration agreements from entering into agreements on certain terms with other potential collaborators. We may not be able to negotiate collaborations on acceptable terms, or at all. If our strategic collaborations do not result in the successful development and commercialization of product candidates, or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. Moreover, our estimates of the potential revenue we are eligible to receive under any strategic collaborations we may enter into may include potential payments related to therapeutic programs for which our collaborators may discontinue development in the future. If that were to occur, we may have to curtail the development of a particular product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of our sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to increase our expenditures to fund development or commercialization activities on our own, we may need to obtain additional capital, which may not be available to us on acceptable terms or at all. If we do not have sufficient funds, we will not be able to bring our product candidates to market and generate product revenue.

In instances where we have or do enter into collaborations, we could be subject to the following risks, each of which may materially harm our business, commercialization prospects, and financial condition:

- we may not be able to control the amount and timing of resources that is required of us to complete our development obligations or that the collaboration partner devotes to the product development or marketing programs;
- the collaboration partner may experience financial difficulties;
- 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;
- we may be required to relinquish important rights such as marketing, distribution, and intellectual property rights;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- a collaborator could move forward with a competing product developed either independently or in collaboration with third parties, including our competitors;
- we and our collaboration partner may disagree regarding the development plan for research and development projects or product candidates on which we are collaborating (for example, we may disagree with a collaboration partner regarding target indications or inclusion or exclusion criteria for a clinical trial); or
- business combinations or significant changes in a collaborator's business strategy may adversely affect our willingness to complete our obligations under any arrangement.

If we license products or businesses, 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 cannot be certain that, following a strategic transaction or license, we will achieve the results, revenue, or specific net income that justifies such transaction.

Risks Related to Intellectual Property

We depend on intellectual property licensed or acquired from third parties and we are currently party to in-license agreements under which we acquired rights to use, develop, manufacture and/or commercialize certain of our proprietary technologies and product candidates. If we breach our obligations under these agreements or if any of these agreements is terminated, or otherwise experience disruptions to our business relationships with our licensors, we may be required to pay damages, lose our rights to such intellectual property and technology, or both, which would harm our business.

We are dependent on patents, know-how, and proprietary technology, both our own and licensed from others. We are a party to intellectual property license agreements and in the future, we may enter into additional license agreements. For example, with respect to developing our product candidates, we have licensed or acquired, as the case may be, certain intellectual property from Amgen, Blackthorn, TSRI and Vanderbilt. These license and acquisition agreements impose, and we expect that future license and acquisition agreements will impose, various diligence, milestone payment, royalty and other obligations on us. If we fail to comply with our obligations under these agreements, we may be required to pay damages and the licensor may have the right to terminate the license. Any termination of these licenses could result in the loss of significant rights and could harm our ability to develop, manufacture and/or commercialize our product candidates. See the section titled "Business—Intellectual Property—In-Licensing and Collaboration Agreements" for additional information regarding these key agreements.

In addition, the agreements under which we license or acquire intellectual property or technology to or 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 have licensed or acquired prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates. Our business also would suffer if any current or future licensors fail to abide by the terms of the license, if the licensors fail to enforce licensed patents against infringing third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or otherwise violating the licensor's rights.

In addition, while we cannot currently determine the amount of the royalty obligations we would be required to pay on sales of future products, if any, the amounts may be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

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 research programs or product candidates and our business, financial condition, results of operations and prospects could suffer.

Licensing of intellectual property is of critical importance to our business and involves complex legal, business and scientific issues and is complicated by the rapid pace of scientific discovery in our industry.

Disputes may also arise between us and our current and future licensors regarding intellectual property subject to a license or collaboration agreement, including those relating to:

- the scope of rights granted under the license or collaboration 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 license agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- whether we are complying with our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our product candidates, and what activities satisfy those diligence obligations;
- the priority of invention of patented technology;
- rights upon termination of the license agreements;
- the scope and duration of exclusivity obligations of each party to the license agreements;
- the amount and timing of payments owed under license agreements; and
- the allocation of ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors or collaborators and by us and our partners.

The resolution of any contractual interpretation dispute that may arise, if unfavorable to us, could have a material adverse effect on our business, financial condition, results of operations and prospects. Such resolution could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, increase what we believe to be our financial or other obligations under the relevant agreement or decrease the third party's financial or other obligations under the relevant agreement. Furthermore, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates. We are generally also subject to all of the same risks with respect to protection of intellectual property that we license as we are for intellectual property that we own, which are described below. If we or our licensors fail to adequately protect this intellectual property, our ability to commercialize our products could suffer.

We depend, in part, on our licensors to file, prosecute, maintain, defend, and enforce certain patents and patent applications that are material to our business.

Certain patents and patent applications relating to our product candidates are owned or controlled by certain of our licensors. In some circumstances, we may not have the right to control the preparation, filing, prosecution, maintenance, and defense of patent applications or patents covering technology that we license from third parties. In such circumstances, our licensors generally have rights to file, prosecute, maintain, and defend the licensed patents in their name, generally with our right to comment on such filing, prosecution, maintenance, and defense, with some obligation for the licensor to consider or incorporate our comments. We generally have the first right to enforce our exclusively licensed patent rights against third parties, although our ability to settle such claims often requires the consent of the licensor. If our licensors or any future licensees having rights to file, prosecute, maintain, and defend our patent rights fail to conduct these activities for patents or patent applications covering any of our product candidates, 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, or selling competing products. We cannot be certain that such activities by our licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents or other intellectual property rights. Pursuant to the terms of the license agreements with some of our licensors, the licensors may have the right to control enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents and, even in the circumstances where we have the right to pursue such enforcement or defense, we cannot ensure the cooperation of our licensors. We cannot be certain that our licensors will allocate sufficient resources or prioritize their or our enforcement of such patents or defense of such claims to protect our interests in the licensed patents. Even if we are not a party to these legal actions, an adverse outcome could harm our business because it might prevent us from continuing to license intellectual property that we may need to operate our business. In addition, even when we have the right to control patent prosecution of licensed patents and patent applications, enforcement of licensed patents, or defense of claims asserting the invalidity of those patents, we may still be adversely affected or prejudiced by actions or inactions of our licensors and their counsel that took place prior to or after our assuming control. This could cause us to lose rights in any applicable intellectual property that we in-license, and as a result our ability to develop and commercialize product candidates may be adversely affected and we may be unable to prevent competitors from making, using and selling competing products.

Given the breadth of the application of our precision neuroscience approach, in order to increase our ability to exploit our technologies, we may enter into collaborations and/or strategic partnerships in the future, and we may not realize the anticipated benefits of such collaborations or partnerships. We may not be able 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.

Research and development collaborations and strategic partnerships are prevalent in the biopharmaceutical industry. The breadth of the application of our precision neuroscience approach is an attractive technology for potential collaborations and/or strategic partnerships. These transactions 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;
- collaborators may not pursue development and commercialization of 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 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.

The development and potential commercialization of our product candidates will require substantial additional capital to fund expenses. We may 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 product candidates and any future product candidates that we may develop, including in territories outside the United States or for certain indications. 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 in-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, which could delay our timelines or otherwise adversely affect our business. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction or such other benefits that led us to enter into the arrangement.

In addition, we face significant competition in seeking appropriate strategic partners and the negotiation process is time-consuming and complex. We may not be successful in our efforts to establish a strategic partnership or other alternative arrangements for our 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 safety and efficacy. 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 agreements on certain terms or at all with potential collaborators.

As a result of these risks, we may not be able to realize the benefit of our existing collaboration or any future collaborations or licensing agreements we may enter into. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future collaborators and changes to the strategies of the combined company. As a result, we may not be able to negotiate collaborations on a timely basis, on acceptable terms, or at all. If we are unable to do so, we may have to curtail the development of 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 product candidates or bring them to market and generate product revenue.

Our product candidates may also require specific components to work effectively and efficiently, and rights to those components may be held by others. We may be unable to in-license any compositions, 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 would harm our business. In that event, we may be required to expend significant time and resources to develop or license replacement technology. 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. Any delays in entering into new collaborations or strategic partnership agreements related to our product candidates could delay the development and commercialization of our product candidates in certain geographies, which could harm our business prospects, financial condition and results of operations.

Moreover, some of our owned and in-licensed patents or patent applications or future patents are or may be co-owned with third parties. If we are unable to obtain an exclusive license to any such third-party co-owners' interest in such patents or patent applications, such co-owners may be able to license their rights to other third 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 patents in order to enforce such patents against third parties, and such cooperation may not be provided to us. Furthermore, our owned and in-licensed patents may be subject to a reservation of rights by one or more third parties. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

We may not be successful in obtaining or maintaining necessary rights for our product pipeline which may cause us to operate our business in a more costly or otherwise adverse manner that was not anticipated.

We own or license from third parties certain intellectual property rights necessary to develop our product candidates. The growth of our business will likely depend in part on our ability to acquire or in-license additional proprietary rights, including to expand our product pipeline. In that event, we may be required to expend considerable time and resources to develop or license replacement technology. For example, our programs may involve additional technologies or product candidates that may require the use of additional proprietary rights held by third parties. Furthermore, other pharmaceutical companies and academic institutions may also have filed or are planning to file patent applications potentially relevant to our business. Our product candidates may also require specific formulations or other technology to work effectively and efficiently. These formulations or technology may be covered by intellectual property rights held by others. From time to time, in order to avoid infringing these third-party rights, we may be required to license technology from additional third parties to further develop or commercialize our product candidates. We may be unable to acquire or in-license any relevant third-party intellectual property rights, including any such intellectual property rights required to manufacture, use or sell our product candidates, that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, and as a result we may be unable to develop or commercialize the affected product candidates, which would harm our business. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights, and 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 under such intellectual property rights, any such license may be non-exclusive, which may allow our competitors' access to the same technologies licensed to us.

Additionally, we sometimes collaborate with academic institutions to accelerate our preclinical research or development under written agreements with these institutions. Typically, 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.

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.

We may be dependent on intellectual property licensed or sublicensed to us from, or for which development was funded or otherwise assisted by, the U.S. government and/or government agencies, such as the National Institutes of Health, for development of our technology and product candidates. Failure to meet our own obligations to our licensors or upstream licensors, including such government agencies, may result in the loss of our rights to such intellectual property, which could harm our business.

The U.S. government and/or government agencies have provided, and in the future may provide, funding, facilities, personnel or other assistance in connection with the development of the intellectual property rights owned by or licensed to us. The U.S. government and/or government agencies may have retained rights in such intellectual property, including the right to grant or require us to grant mandatory licenses or sublicenses to such intellectual property to third parties under certain specified circumstances, including if it is necessary to meet health and safety needs that we are not reasonably satisfying or if it is necessary to meet requirements for public use specified by federal regulations, or to manufacture products in the United States. Any exercise of such rights, including with respect to any such required sublicense of these licenses, could result in the loss of significant rights and could harm our ability to commercialize licensed products. For example, the research resulting in certain of our in-licensed patent rights and technology was funded in part by the U.S. government. As a result, the government may have certain rights, or march-in rights, to such patent rights and technology. These rights may permit the government to disclose our confidential information to third parties and to exercise march-in rights to use or allow third parties to use our licensed technology.

If we are unable to obtain and maintain sufficient intellectual property protection for our product candidates and approach, or if the scope of the intellectual property protection is not sufficiently broad, our competitors could develop and commercialize products similar or identical to ours, and our ability to successfully commercialize our products may be adversely affected. We cannot ensure that patent rights relating to inventions described and claimed in our pending patent applications will issue or that patents based on our patent applications will not be challenged and rendered invalid and/or unenforceable.

We or our licensors have filed, and we anticipate that in the future we will file additional patent applications both in the United States and in other countries, as appropriate. However, we cannot predict:

- if and when any patents will issue;
- the degree and range 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 in-license will result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries.

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to our product candidates and approach. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel discoveries and technologies that are important to our business.

Obtaining and enforcing patents is expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications or maintain and/or enforce patents that may issue based on our patent applications, at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development results before it is too late to obtain patent protection. Although we enter into non-disclosure and confidentiality agreements with parties who have access to patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach these agreements and disclose such results before a patent application is filed, thereby jeopardizing our ability to seek patent protection.

Our ability to enforce patent rights also depends on our ability to detect infringement. It may be difficult to detect infringers who do not advertise the components or methods that are used in connection with their products and services. Such proceedings could also provoke third parties to assert claims against us, including that some or all of the claims in one or more of our patents are invalid or otherwise unenforceable. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor’s or potential competitor’s product or service. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded if we were to prevail may not be commercially meaningful. If we initiate lawsuits to protect or enforce our patents, or litigate against third-party claims, such proceedings would be expensive and would divert the attention of our management and technical personnel.

Composition of matter patents for biopharmaceutical products often provide a strong form of 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 our product candidates will be considered patentable by the United States Patent and Trademark Office (USPTO), or by patent offices in foreign countries, or that the claims in any of our issued patents will be considered valid and enforceable by courts in the United States or foreign countries. Method of use patents protect the use of a product for the specified method. 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, 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 can be difficult to prevent or prosecute.

The strength of patents in the biotechnology, biopharmaceutical and data science fields can be uncertain, and evaluating the scope of such patents involves complex legal, factual and scientific analyses and has in recent years been the subject of much litigation, resulting in court decisions, including Supreme Court decisions, which have increased uncertainties as to the ability to enforce patent rights in the future. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries. Even if the patents do successfully issue, third parties may challenge the validity, enforceability, or scope thereof, which may result in such patents being narrowed, invalidated, or held unenforceable. In the event of litigation or administrative proceedings, we cannot be certain that the claims in any of our issued patents will be considered valid by courts in the United States or foreign countries. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing their products to avoid being covered by our claims. If the breadth or strength of protection provided by the patent applications we hold with respect to our product candidates is threatened, this could dissuade companies from collaborating with us to develop, and could threaten our ability to commercialize, our product candidates. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States, or vice versa. Further, if we encounter delays in our clinical trials, the period of time during which we could market our product candidates under patent protection would be reduced.

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

We cannot guarantee that any of our patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration 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 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 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 failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our 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. Further, 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 most other countries are confidential for typically a period of 18 months after filing, or may not be published at all, we cannot be certain that we were the first to file any patent application related to our 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.

Our patents or pending patent applications may be challenged in the courts or patent offices in the United States and abroad. For example, we may be subject to a third-party pre-issuance submission of prior art to the USPTO or become involved in post-grant review procedures, oppositions, derivations, reexaminations, or *inter partes* review proceedings, in the United States or elsewhere, challenging our patent rights or the patent rights of others. 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 and products, or limit the duration of the patent protection of our technology and products. In addition, 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. Any failure to obtain or maintain patent protection with respect to our product candidates could have a material adverse effect on our business, financial condition, results of operations and prospects.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

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 or permit us to maintain our competitive advantage. For example:

- others may be able to make product candidates that are similar to ours but that are not covered by the claims of the patents that we own or have exclusively licensed;

- we or our licensors or future collaborators might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed;
- we or our licensors or future collaborators might not have been the first to file patent applications covering certain of our inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- it is possible that our pending patent applications will not lead to issued patents;
- issued patents that we own or have exclusively licensed may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- we cannot predict the scope of protection of any patent issuing based on our patent applications, including whether the patent applications that we own or in-license will result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries;
- the claims of any patent issuing based on our patent applications may not provide protection against competitors or any competitive advantages, or may be challenged by third parties;
- if enforced, a court may not hold that our patents are valid, enforceable and infringed;
- we may need to initiate litigation or administrative proceedings to enforce and/or defend our patent rights which will be costly whether we win or lose;
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property;
- we may fail to adequately protect and police our trademarks and trade secrets; and
- the patents of others may have an adverse effect on our business, including if others obtain patents claiming subject matter similar to or improving that covered by our patents and patent applications.

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

Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of 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 rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce, and any other elements of our product candidates, technology and product discovery and development processes 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 and confidential information, however, may be difficult to protect. We seek to protect our trade secrets, know-how and confidential information, including our proprietary processes, in part, by entering into confidentiality agreements with our employees, consultants, outside scientific advisors, contractors, and collaborators. We require our employees to enter into written employment agreements containing provisions of confidentiality and obligations to assign to us any inventions generated in the course of their employment. With our consultants, contractors, and outside scientific collaborators, these agreements typically include invention assignment obligations. We cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology and processes. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, outside scientific advisors, contractors, and collaborators might intentionally or inadvertently disclose our trade secret information to competitors. In addition, competitors may otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Despite these 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 countries 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 will 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.

Third-party claims of intellectual property infringement against us or our collaborators may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and biopharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, derivation, *inter partes* review, post-grant review and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. Furthermore, patent reform and changes to patent laws add uncertainty to the possibility of challenge to our patents in the future. We cannot assure you that our product candidates and other proprietary technologies we may develop will not infringe existing or future patents owned by third parties. 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. 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.

Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are developing our product candidates. We cannot provide any assurances that third-party patents do not exist which might be enforced against our current product candidates or future products, resulting in either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties. As the biotechnology and biopharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may give rise to claims of infringement of the patent rights of others. Third parties may assert that we infringe their patents or other intellectual property, or that we are otherwise employing their proprietary technology without authorization, and may sue us. There may be third-party patents of which we are currently unaware with 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 our product candidate. 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 product candidates may infringe. In addition, third parties, 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 obtain patents in the future that may prevent, limit or otherwise interfere with our ability to make, use and sell our product candidates, and may claim that use of our technologies or the manufacture, use, or sale of our product candidates infringes upon these patents. If any such third-party patents were held by a court of competent jurisdiction to cover our technologies or product candidates, or if we are found to otherwise infringe a third party's intellectual property rights, the holders of any such patents may be able to block, including by court order, our ability to develop, manufacture or commercialize the applicable product candidate unless we obtain a license under the applicable patents or other intellectual property, or until such patents expire or are finally determined to be held invalid or unenforceable. Such a license may not be available 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. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, our ability to commercialize our product candidates may be impaired or delayed, which could in turn significantly harm our business.

The biopharmaceutical 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 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. In addition, we may not have sufficient resources to bring these actions to a successful conclusion.

Third parties asserting their patent or other intellectual property rights against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our product candidates or force us to cease some of our business operations. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of management and other employee resources from our business, cause development delays, and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties, or redesign our infringing products, which may be impossible on a cost-effective basis or require substantial time and monetary expenditure. In that event, we would be unable to further develop and commercialize our product candidates, which could harm our business significantly. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

We may not be able to protect our intellectual property rights throughout the world.

Patents are of national or regional effect, and filing, prosecuting, maintaining and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can have a different scope and strength than do those in the United States. In addition, the laws of some foreign countries, particularly certain developing countries, do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement rights are not as strong as those in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or adequate to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property, particularly those relating to biopharmaceutical 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, or the marketing of competing products in violation of our proprietary rights. Proceedings to enforce our patent and other intellectual property rights in foreign jurisdictions 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. Moreover, our ability to protect and enforce our intellectual property rights may be adversely affected by unforeseen changes in foreign intellectual property laws. In addition, certain developing countries, including China and India, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, 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 countries 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.

In addition, geo-political actions in the United States and in foreign countries could increase the uncertainties and costs surrounding the prosecution or maintenance of our patent applications or those of any current or future licensors and the maintenance, enforcement or defense of our issued patents or those of any current or future licensors. For example, the United States and foreign government actions related to Russia's conflict in Ukraine may limit or prevent filing, prosecution, and maintenance of patent applications in Russia. Government actions may also prevent maintenance of issued patents in Russia. These actions could result in abandonment or lapse of our patents or patent applications, resulting in partial or complete loss of patent rights in Russia. If such an event were to occur, it could have a material adverse effect on our business. In addition, a decree was adopted by the Russian government in March 2022, allowing Russian companies and individuals to exploit inventions owned by patentees from the United States without consent or compensation. Consequently, we would not be able to prevent third parties from practicing our inventions in Russia or from selling or importing products made using our inventions in and into Russia. Accordingly, our competitive position may be impaired, and our business, financial condition, results of operations and prospects may be adversely affected.

Finally, Europe's planned Unified Patent Court may, in particular, present uncertainties for our ability to protect and enforce our patent rights against competitors in Europe. In 2012, the European Patent Package, or the EU Patent Package, regulations were passed with the goal of providing a single pan-European Unitary Patent system and a new European Unified Patent Court, or the UPC, for litigation involving European patents.

The Unitary Patent system and UPC successfully launched on June 1, 2023. Under the UPC, all European patents, including those issued prior to ratification of the European Patent Package, now by default automatically fall under the jurisdiction of the UPC. The UPC provides our competitors with a new forum to centrally revoke our European patents, and allows for the possibility of a competitor to obtain pan-European injunctions. It will be several years before we will understand the scope of patent rights that will be recognized and the strength of patent remedies that will be provided by the UPC. Under the current EU Patent Package, we have the right to opt our patents out of the UPC over the first seven years of the court’s existence, but doing so may preclude us from realizing the benefits of the new unified court.

Because of the expense and uncertainty of litigation, we may conclude that even if a third party is infringing our issued patents, any patents that may be issued as a result of our pending or future patent applications or other intellectual property rights, the risk-adjusted cost of bringing and enforcing such a claim or action, which typically last for years before they are concluded, may be too high or not in the best interest of our company or our stockholders, or it may be otherwise impractical or undesirable to enforce our intellectual property against some third parties. Our competitors or other third parties may be able to sustain the costs of complex patent litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. In such cases, we may decide that the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings and that the more prudent course of action is to simply monitor the situation or initiate or seek some other non-litigious action or solution. In addition, the uncertainties associated with litigation could compromise our ability to raise the funds necessary to continue our clinical trials, continue our internal research programs, in-license needed technology or other product candidates, or enter into development partnerships that would help us bring our product candidates to market.

We may be involved in lawsuits to protect or enforce our patents or other intellectual property or the intellectual property of our licensors, which could be expensive, time-consuming, and unsuccessful.

Competitors may infringe our patents or other intellectual property or the intellectual property of our licensors. To cease such infringement or unauthorized use, we may be required to file patent infringement claims, which can be expensive and time-consuming and divert the time and attention of our management and scientific personnel. Our pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. In addition, in an infringement proceeding or a declaratory judgment action, a court may decide that one or more of our patents is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceeding could put one or more of our patents at risk of being invalidated, held unenforceable, or interpreted narrowly and could put our patent applications at risk of not issuing. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business.

Interference or derivation proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to, or the correct inventorship of, our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Litigation, interference, derivation or other proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees.

Even if we establish infringement, the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. 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.

Issued patents covering our product candidates could be found invalid or unenforceable if challenged in court or before the USPTO or comparable foreign authority.

If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim we infringe their patents or that the patent covering our product candidate is invalid or unenforceable, or both. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent, including lack of novelty, obviousness, non-enablement or insufficient written description or 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 claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, *inter partes* review, post-grant review, and equivalent proceedings in foreign jurisdictions, such as opposition or derivation proceedings. Such proceedings could result in revocation or amendment to our patents in such a way that they no longer cover and protect our product candidates. The outcome following legal assertions of invalidity and unenforceability is unpredictable. In any patent infringement proceeding, there is a risk that a court will decide that a patent of ours is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent’s claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patent claims do not cover the invention, or decide that the other party’s use of our patented technology falls under the safe harbor to patent infringement under 35 U.S.C. § 271I(1). With respect to the validity of our patents, for example, we cannot be certain that there is no invalidating prior art of which we, our patent counsel, and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our product candidates and such an outcome may limit our ability to assert our patents against those parties or other competitors and may curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Such a loss of patent protection could have a material adverse impact on our business. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves both technological and legal complexity, and is therefore costly, time-consuming, and inherently uncertain. Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs, and may diminish our ability to protect our inventions, obtain, maintain, and enforce our intellectual property rights and, more generally, could affect the value of our intellectual property or narrow the scope of our owned and licensed patents. Recent patent reform legislation in the United States and other countries, including the Leahy-Smith America Invents Act, or the Leahy-Smith Act, signed into law on September 16, 2011, could increase those uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art and provide more efficient and cost-effective avenues for competitors to challenge the validity of patents. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by USPTO administered post-grant proceedings, including post-grant review, *inter partes* review, and derivation proceedings. After March 2013, under the Leahy-Smith Act, the United States transitioned to a first inventor to file system in which, assuming that the other statutory requirements are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. A third party that files a patent application in the USPTO after March 2013, but before we file an application covering the same invention, could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by such third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we or our licensors were the first to either (1) file any patent application related to our product candidates and other proprietary technologies we may develop or (2) invent any of the inventions claimed in our or our licensor's patents or patent applications. Even where we have a valid and enforceable patent, we may not be able to exclude others from practicing the claimed invention where the other party can show that they used the invention in commerce before our filing date or the other party benefits from a compulsory license. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Depending on decisions by Congress, the federal courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. For example, in a series of cases, the U.S. Supreme Court held that certain claims do not present patentable subject matter (*Mayo Collaborative Services v. Prometheus Laboratories, Inc.* (2012); *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.* (2013); *Alice Corp. v. CLS Bank International* (2014)). Although we do not believe that any of the patents owned or licensed by us will be found invalid based on these decisions, we cannot predict how future decisions by Congress, the federal courts or the USPTO may impact the value of our patents.

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

Periodic maintenance fees on any issued patent are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patent. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other similar provisions during the patent application process. Although an inadvertent lapse, including due to the effect of the COVID-19 pandemic on us or our patent maintenance vendors, can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Noncompliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees, and failure to properly legalize and submit formal documents. In any such event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

The lives of our patents may not be sufficient to effectively protect our products and business.

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 after its first effective filing date. Although various extensions may be available, the life of a patent, and the protection it affords, is limited. 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 product candidates are commercialized. Even if patents covering our product candidates are obtained, once the patent life has expired for a product, we may be open to competition from biosimilar or generic medications. The launch of a generic version of one of our products in particular would be likely to result in an immediate and substantial reduction in the demand for that product, which could have a material adverse effect on our business, financial condition, results of operations and prospects. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing product candidates similar or identical to ours. In addition, although upon issuance in the United States a patent's life 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. 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 extend to the full scope of the claim, but instead only to the scope of 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. If we do not have sufficient patent life to protect our products, our business and results of operations will be adversely affected.

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 patents or other intellectual property as an inventor or co-inventor. The failure to name the proper inventors on a patent application can result in the patents issuing thereon being unenforceable. Inventorship disputes may arise from conflicting views regarding the contributions of different individuals named as inventors, the effects of foreign laws where foreign nationals are involved in the development of the subject matter of the patent, conflicting obligations of third parties involved in developing our product candidates or as a result of questions regarding co-ownership of potential joint inventions. For example, we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Alternatively, or additionally, we may enter into agreements to clarify the scope of our rights in such intellectual property. Litigation may be necessary to defend against these and other claims challenging inventorship. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Such an outcome could have a material adverse effect on our business. 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.

We or our licensors may have relied on third-party consultants or collaborators or on funds from third parties, such as the U.S. government, such that we or our licensors are not the sole and exclusive owners of the patents we in-licensed. If other third parties have ownership rights or other rights to our patents, including 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.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or 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, conceives or develops intellectual property that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

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

Our current or future trademarks or trade names may be challenged, infringed, circumvented or declared generic or descriptive, or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential partners or customers in our markets of interest. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in other 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 foreign 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. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected. We may license our trademarks and trade names to third parties, such as distributors. Though these license agreements may provide guidelines for how our trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names.

Moreover, any name we have proposed to use with our product candidate 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. Similar requirements exist in Europe. 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, it 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. Furthermore, in many countries, 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. 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. If we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

Risks Related to this Offering and Ownership of Our Common Stock

Our stock price may be volatile or may decline regardless of our operating performance, resulting in substantial losses for investors.

The market price of our common stock may be highly volatile and may fluctuate substantially as a result of a variety of factors, some of which are related in complex ways. The market price of our common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including the factors listed below and other factors described in this “Risk Factors” section:

- the commencement, enrollment, or results of current and future preclinical studies and clinical trials we may conduct, or changes in the development status of our product candidates;

- adverse results or delays in clinical trials;
- unanticipated serious safety concerns related to the use of our product candidates;
- any delay in our regulatory filings for our product candidates and any adverse development or perceived adverse development with respect to the applicable regulatory authority's review of such filings, including, without limitation, the issuance by the FDA of a "refusal to file" letter or a request for additional information;
- changes in laws or regulations, including, but not limited to, preclinical study or clinical trial requirements for approvals;
- negative clinical outcomes or other adverse events related to product candidates being developed by others in the CNS field;
- publication of research reports about us or our industry, or CNS programs in particular, or positive or negative recommendations or withdrawal of research coverage by securities analysts;
- any adverse changes to our relationship with manufacturers or suppliers;
- manufacturing, supply or distribution shortages;
- our failure to commercialize our product candidates;
- general political conditions, including but not limited to, disruptions in U.S. government operations and funding, geopolitical conflicts such as the war between Russia and the Ukraine and any sanctions or other repercussions that may result therefrom;
- general economic conditions, including but not limited to, rising inflation, recession risk, low consumer confidence and increasing interest rates;
- additions or departures of key scientific or management personnel;
- disputes or other developments relating to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;
- variations in our results of operations;
- our cash position;
- our failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- announcements made by us or our competitors of new product and service offerings, acquisitions, strategic relationships, joint ventures, or capital commitments;
- our inability to establish collaborations, if needed;
- our ability to effectively manage our growth;
- changes in the market valuations of similar companies;
- press reports, whether or not true, about our business;
- sales or perceived potential sales of our common stock by us or our stockholders in the future;
- overall fluctuations in the equity markets;
- ineffectiveness of our internal controls;
- changes or developments in the global regulatory environment;
- litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;

- impact from the COVID-19 pandemic on us or third parties with which we engage; and
- other events or factors, many of which are beyond our control.

In addition, the stock market in general and biotechnology and biopharmaceutical 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, and may lose some or all of, your investment.

Our quarterly operating results may fluctuate significantly or may fall below the expectations of investors or securities analysts, each of which may cause our stock price to fluctuate or decline.

We expect our operating results to be subject to quarterly fluctuations. Our net loss and other operating results will be affected by numerous factors, including:

- timing and variations in the level of expense related to the current or future development of our programs, including but not limited to, the timing of the milestone payments;
- our ability to enroll patients in clinical trials and timing and status of enrollment for our clinical trials;
- results of clinical trials, or the addition or termination of clinical trials or funding support by us or potential future partners;
- the need to conduct unanticipated clinical trials or trials that are larger or more complex than anticipated;
- competition from products that compete with our product candidates, and changes in the competitive landscape of our industry, including consolidation among our competitors or partners;
- any delays in regulatory review or approval of our product candidates;
- stock-based compensation estimates;
- changes in general political conditions, including but not limited to, disruptions in U.S. government operations and funding, geopolitical conflicts such as the war between Russia and the Ukraine and any sanctions or other repercussions that may result therefrom;
- changes in general economic conditions, including but not limited to, rising inflation, recession risk, low consumer confidence and increasing interest rates;
- our execution of any collaboration, licensing or similar arrangements, and the timing of payments we may make or receive under potential future arrangements or the termination or modification of any such potential future arrangements;
- any intellectual property infringement, misappropriation or violation lawsuit or opposition, interference or cancellation proceeding in which we may become involved;
- additions and departures of key personnel;
- strategic decisions by us or our competitors, such as acquisitions, divestitures, spin-offs, joint ventures, strategic investments or changes in business strategy;
- if any product candidate we may develop receive regulatory approval, the timing and terms of such approval and market acceptance and demand for such product candidates;
- the timing and cost to establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly with current or future collaborators;

- the risk/benefit profile, cost and reimbursement policies with respect to our product candidates, if approved, and existing and potential future products that compete with any of our product candidates;
- our ability to commercialize our product candidates, if approved, inside and outside of the United States, either independently or working with third parties;
- our ability to establish and maintain collaborations, licensing or other arrangements;
- our ability to adequately support future growth;
- potential unforeseen business disruptions that increase our costs or expenses;
- regulatory developments affecting current or future product candidates or those of our competitors; and
- impact from the COVID-19 pandemic, or any future pandemic, on us or third parties with which we engage.

If our quarterly operating results fall below the expectations of investors or securities analysts, the price of our common stock could decline substantially. Furthermore, any quarterly fluctuations in our operating results may, in turn, cause the price of our stock to fluctuate substantially. We believe that quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of our future performance.

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

Prior to this offering, as of September 8, 2023, our executive officers, directors, holders of 5% or more of our capital stock and their respective affiliates owned approximately 63.1% of our outstanding voting stock and, upon the closing of this offering, that same group will own approximately 57.1% of our outstanding voting stock (assuming no exercise of the underwriters' option to purchase additional shares). Therefore, even after this offering these stockholders will have the ability to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. In addition, certain of our principal stockholders, including Amgen, ARCH Venture Partners and Mubadala Capital, have designated certain of our directors for election to the Board. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders.

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

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

Upon the completion of this offering, 151,949,096 shares of common stock will be outstanding (or 154,155,596 shares if the underwriters exercise their option to purchase additional shares from us in full), based on the number of shares outstanding as of June 30, 2023.

All shares of common stock expected to be sold in this offering will be freely tradable without restriction or further registration under the Securities Act unless held by our "affiliates" as defined in Rule 144 under the Securities Act. The resale of the remaining 137,239,096 shares, or 90.3% of our outstanding shares of common stock following this offering, is currently prohibited or otherwise restricted, subject to certain limited exceptions, as a result of securities law provisions, market standoff agreements entered into by certain of our stockholders with us or lock-up agreements entered into by our stockholders with the underwriters in connection with this offering. However, subject to applicable securities law restrictions, these shares will be able to be sold in the public market beginning on the 181st day after the date of this prospectus. Shares issued upon the exercise of stock options outstanding under our equity incentive plans or pursuant to future awards granted under those plans will become available for sale in the public market to the extent permitted by the provisions of applicable vesting schedules, market stand-off agreements and/or lock-up agreements, as well as Rules 144 and 701 under the Securities Act. For more information, see the section titled "Shares Eligible for Future Sale."

Upon the completion of this offering, the holders of approximately 123.8 million shares, or 86% of our outstanding shares following this offering, of our common stock will have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or our other stockholders. We also intend to register the offer and sale of all shares of common stock that we may issue under our equity compensation plans. Once we register the offer and sale of shares for the holders of registration rights and shares that may be issued under our equity incentive plans, these shares will be able to be sold in the public market upon issuance, subject to the lock-up agreements described under "Underwriting."

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

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

Our management will have broad discretion over the use of net proceeds from this offering, and could spend the net proceeds in ways our stockholders may not agree with or that do not yield a favorable return, if at all. If we do not invest or apply the net proceeds from this offering in ways that improve our operating results, we may fail to achieve expected financial results, which could cause our stock price to decline. For additional details see the section titled "Use of Proceeds."

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

The assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, is substantially higher than the net tangible book value per share of our outstanding common stock immediately following the completion of this offering. If you purchase shares of common stock in this offering, you will experience substantial and immediate dilution in the pro forma as adjusted net tangible book value per share of $13.33 per share as of June 30, 2023. That is because the price that you pay will be substantially greater than the pro forma 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 assumed initial public offering price when they purchased their shares of our capital stock. You will experience additional dilution when those holding stock options exercise their right to purchase common stock under our equity incentive plans or when we otherwise issue additional shares of common stock. For additional details see the section titled "Dilution."

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

We have never declared or paid cash dividends on our common stock. We currently intend to retain all available funds and any future earnings to support operations and to finance the growth and development of our business. We do not intend to declare or pay any cash dividends on our capital stock in the foreseeable future. As a result, any investment return on our common stock will depend upon increases in the value for our common stock, which is not certain.

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

Our amended and restated certificate of incorporation and amended and restated bylaws, each to be in effect immediately prior to the completion of this offering, will contain provisions that could depress the market price of our common stock by acting to discourage, delay, or prevent a change in control of our company or changes in our management that the stockholders of our company may deem advantageous. These provisions, among other things:

- establish a staggered board of directors divided into three classes serving staggered three-year terms, such that not all members of the board of directors will be elected at one time;
- authorize our board of directors to issue new series of preferred stock without stockholder approval and create, subject to applicable law, a series of preferred stock with preferential rights to dividends or our assets upon liquidation, or with superior voting rights to our existing common stock;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- eliminate the ability of our stockholders to fill vacancies on our board of directors;
- establish advance notice requirements for nominations for election to our Board or for proposing matters that can be acted upon by stockholders at our annual stockholder meetings;
- permit our board of directors to establish the number of directors;
- provide that our board of directors is expressly authorized to make, alter or repeal our amended and restated bylaws;
- provide that stockholders can remove directors only for cause and only upon the approval of not less than 66-2/3% of all outstanding shares of our voting stock;
- require the approval of not less than 66-2/3% of all outstanding shares of our voting stock to amend our amended and restated bylaws and specific provisions of our certificate of incorporation; and
- the jurisdictions in which certain stockholder litigation may be brought.

As a Delaware corporation, we will be subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in a business combination specified in the statute with an interested stockholder (as defined in the statute) for a period of three years after the date of the transaction in which the person first becomes an interested stockholder, unless the business combination is approved in advance by a majority of the independent directors or by the holders of at least two-thirds of the outstanding disinterested shares. The application of Section 203 of the Delaware General Corporation Law could also have the effect of delaying or preventing a change of control of our company.

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

Our amended and restated certificate of incorporation to be in effect upon the completion of this offering will provide that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum, to the fullest extent permitted by law, for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a breach of a fiduciary duty owed by any director, officer or other employee to us or our stockholders, (3) any action asserting a claim against us or any director, officer, or other employee arising pursuant to the Delaware General Corporation Law, (4) any action to interpret, apply, enforce, or determine the validity of our second amended and restated certificate of incorporation or amended and restated bylaws or (5) any other action asserting a claim that is governed by the internal affairs doctrine, shall be the Court of Chancery of the State of Delaware (or another state court or the federal court located within the State of Delaware if the Court of Chancery does not have or declines to accept jurisdiction), in all cases subject to the court’s having jurisdiction over indispensable parties named as defendants. In addition, our amended and restated certificate of incorporation will provide that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act but that the forum selection provision will not apply to claims brought to enforce a duty or liability created by the Exchange Act.

Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may result in increased costs to stockholders to bring a claim for any such dispute and may have the effect of discouraging lawsuits against us or our directors and officers. Alternatively, if a court were to find the choice of forum provision contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, financial condition, and operating results. For example, under the Securities Act, federal courts have concurrent jurisdiction over all suits brought to enforce any duty or liability created by the Securities Act, and investors cannot waive compliance with the federal securities laws and the rules and regulations thereunder. Any person or entity purchasing or otherwise acquiring any interest in our shares of capital stock shall be deemed to have notice of and consented to this exclusive forum provision, but will not be deemed to have waived our compliance with the federal securities laws and the rules and regulations thereunder.

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

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the Code), if a corporation undergoes an “ownership change,” generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, the corporation’s ability to use its pre-change net operating loss carryforwards (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. We may have experienced ownership changes in the past and may experience ownership changes as a result of our acquisitions of assets and as a result of this offering and/or subsequent shifts in our stock ownership (some of which are outside our control). As a result, our ability to use our pre-change NOLs and tax credits to offset future taxable income, if any, could be subject to limitations. Similar provisions of state tax law may also apply. As a result, even if we attain profitability, we may be unable to use a material portion of our NOLs and tax credits.

Participation in this offering by our existing stockholders and/or their affiliated entities may reduce the public float for our common stock.

To the extent certain of our existing stockholders and their affiliated entities participate in this offering, such purchases would reduce the non-affiliate public float of our shares, meaning the number of shares of our common stock that are not held by officers, directors and controlling stockholders. A reduction in the public float could reduce the number of shares that are available to be traded at any given time, thereby adversely impacting the liquidity of our common stock and depressing the price at which you may be able to sell shares of common stock purchased in this offering.

General Risk Factors

If securities or industry analysts either do not publish research about us or publish inaccurate or unfavorable research about us, our business or our market, or if they change their recommendations regarding our common stock adversely, the trading price or trading volume of our common stock could decline.

The trading market for our common stock will be influenced in part by the research and reports that securities or industry analysts may publish about us, our business, our market, or our competitors. If one or more of these analysts initiate research with an unfavorable rating or downgrade our common stock, provide a more favorable recommendation about our competitors or publish inaccurate or unfavorable research about our business, our common stock price would likely decline. If any analyst who may cover us were to cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the trading price or trading volume of our common stock to decline.

Unstable market and economic conditions may have serious adverse consequences on our business, financial condition and stock price.

As widely reported, global credit and financial markets have experienced extreme volatility and disruptions over the past several months, including concerns about declines in consumer confidence, declines in economic growth, increases in the rate of inflation, increases in borrowing rates and changes in liquidity and credit availability, and uncertainty about economic stability, including most recently in connection with actions undertaken by the U.S. Federal Reserve Board to address inflation, the failure of banks, the military conflict in Ukraine, the continuing effects of the COVID-19 pandemic and supply chain disruptions. There can be no assurance that future deterioration in global credit and financial markets and confidence in economic conditions will not occur. Our general business strategy may be adversely affected by any such economic downturn, volatile business environment or continued unpredictable and unstable market conditions. If the current equity and credit markets deteriorate, it may make any necessary debt or equity financing more difficult, more costly and more dilutive, if at all possible. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that one or more of our current service providers, manufacturers and other partners may not survive an economic downturn, which could directly affect our ability to attain our operating goals on schedule and on budget.

There has been no prior public market for our common stock, and an active trading market may not develop or be sustained.

There has been no public market for our common stock prior to this offering. The initial public offering price for our common stock was determined through negotiations among the underwriters and us and may vary from the market price of our common stock following this offering. An active or liquid market in our common stock may not develop upon closing of this offering or, if it does develop, it may not be sustainable. The lack of an active market may impair the value of your shares, your ability to sell your shares at the time you wish to sell them and the prices that you may obtain for your shares. 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.

The continuing impact of "Brexit" may have a negative effect on our business.

Following a national referendum and subsequent legislation, the United Kingdom formally withdrew from the European Union, commonly referred to as "Brexit," and ratified a trade and cooperation agreement governing its future relationship with the European Union. Among other things, the agreement, which became effective in 2021, addresses trade, economic arrangements, law enforcement, judicial cooperation and governance. Because the agreement merely sets forth a framework in many respects that requires complex additional bilateral negotiations between the United Kingdom and the European Union, significant uncertainty remains about how the precise terms of the relationship between the parties will differ from the terms before withdrawal.

We cannot yet predict the full implications of Brexit, including whether it will increase our operational costs or otherwise have a negative effect on our business, financial condition or results of operations, which could reduce the price of our common stock.

We are an emerging growth company, and any decision on our part to comply only with certain reduced reporting and disclosure requirements applicable to emerging growth companies could make our common stock less attractive to investors.

We are an "emerging growth company" as defined in the JOBS Act and, for as long as we continue to be an emerging growth company, we may choose to take advantage of exemptions from various reporting requirements applicable to other public companies but not to emerging growth companies, including:

- not being required to have our independent registered public accounting firm audit our internal control over financial reporting under Section 404 of the Sarbanes-Oxley Act;
- reduced disclosure obligations regarding executive compensation in our periodic reports and annual report on Form 10-K; and
- exemptions from the requirements of holding non-binding advisory votes on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We could be an emerging growth company for up to five years following the completion of our initial public offering. Our status as an emerging growth company will end as soon as any of the following takes place:

- the last day of the fiscal year in which we have more than $1.235 billion in annual revenue;
- the date we qualify as a "large accelerated filer," with at least $700.0 million of equity securities held by non-affiliates;
- the date on which we have issued, in any three-year period, more than $1.0 billion in non-convertible debt securities; or
- the last day of the fiscal year ending after the fifth anniversary of the completion of our initial public offering.

We cannot predict if investors will find our common stock less attractive if we choose to rely on any of the exemptions afforded to emerging growth companies. If some investors find our common stock less attractive because we rely on any of these exemptions, there may be a less active trading market for our common stock and the market price of our common stock may be more volatile.

Under the JOBS Act, emerging growth companies can also delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have elected to use this extended transition period for any new or revised accounting standards during the period in which we remain an emerging growth company; however, we may adopt certain new or revised accounting standards early. 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 requirements of being a public company may strain our resources, result in more litigation, and divert management's attention.

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

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

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

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

Business disruptions could seriously harm our future revenue and financial condition and increase our costs and expenses.

Our operations could be subject to earthquakes, power shortages, telecommunications failures, water shortages, floods, hurricanes, typhoons, fires, extreme weather conditions, medical epidemics and other natural or manmade disasters or business interruptions, for which we are predominantly self-insured. We rely on third-party manufacturers to produce our product candidates. Our ability to obtain clinical supplies of our product candidates could be disrupted if the operations of these suppliers were affected by a man-made or natural disaster or other business interruption. The occurrence of any of these business disruptions could seriously harm our operations and financial condition and increase our costs and expenses.

If we fail to maintain proper and effective internal controls over financial reporting our ability to produce accurate and timely financial statements could be impaired.

Pursuant to Section 404 of the Sarbanes-Oxley Act, our management will be required to report upon the effectiveness of our internal control over financial reporting when we lose our status as an "emerging growth company" and become an "accelerated filer" or a "large accelerated filer." At that point, we will be required to have an independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting. The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex, judgmental and require significant documentation, testing and possible remediation. To comply with the requirements of being a reporting company under the Exchange Act, we will need to implement additional financial and management controls, reporting systems and procedures and hire additional accounting and finance staff.

We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations, or cash flows. If we are unable to conclude that our internal control over financial reporting is effective, or if we and/or our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our consolidated financial statements, the market price of our common stock could decline, and we could be subject to sanctions or investigations by Nasdaq, the SEC, or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

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

Upon the completion of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We must design 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. For example, our directors or executive officers could inadvertently fail to disclose a new relationship or arrangement causing us to fail to make a required related party transaction disclosure. 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 our estimates or judgments relating to our critical accounting policies prove to be incorrect or financial reporting standards or interpretations change, our results of operations could be adversely affected.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States (U.S. GAAP), requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience, known trends and events, and various other factors that we believe to be reasonable under the circumstances, as provided in "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates." The results of these estimates form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our consolidated financial statements include but are not limited to stock-based compensation and evaluation of acquisitions of assets and other similar transactions as well as clinical trial accruals. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of securities analysts and investors, resulting in a decline in the trading price of our common stock.

Additionally, we regularly monitor our compliance with applicable financial reporting standards and review new pronouncements and drafts thereof that are relevant to us. As a result of new standards, changes to existing standards and changes in their interpretation, we might be required to change our accounting policies, alter our operational policies, and implement new or enhance existing systems so that they reflect new or amended financial reporting standards, or we may be required to restate our audited consolidated financial statements, unaudited condensed consolidated financial statements and related notes. Such changes to existing standards or changes in their interpretation may also have an adverse effect on our reputation, business, financial position, and profit.

Our information technology systems, or those used by our third-party research institution collaborators, CROs, CDMOs, or other contractors or consultants, may fail or suffer cyberattacks or security breaches.

We are increasingly dependent upon information technology systems, infrastructure and data to operate our business. In the ordinary course of business, we collect, store and transmit confidential information (including but not limited to intellectual property, proprietary business information and personal information of our customers, employees, and contractors). It is critical that we do so in a secure manner to maintain the confidentiality and integrity of such confidential information. We also have outsourced elements of our operations to third parties, and as a result we manage a number of third-party contractors who have access to our confidential information.

Despite the implementation of security measures, our information technology systems and those of our future CROs and CDMOs, and other contractors and consultants are vulnerable to attack, damage, or interruption from hacking, cyberattacks, “phishing” attacks and other social engineering schemes, computer viruses and malware (e.g., ransomware), malicious code, denial or degradation of service attacks, sophisticated nation-state and nation-state supported actors, unauthorized access or use by persons within our organization, natural disasters, terrorism, war and telecommunication and electrical failures, employee theft or misuse, human error, and fraud. Attacks upon information technology systems are increasing in their frequency, levels of persistence, sophistication and intensity, and are being conducted by sophisticated and organized groups and individuals with a wide range of motives and expertise. As a result of the COVID-19 pandemic, and continued hybrid working environment, we may also face increased cybersecurity risks due to our reliance on internet technology and the number of our employees who are working remotely, which may create additional opportunities for cybercriminals to exploit vulnerabilities.

We and certain of our service providers are from time to time subject to cyberattacks and security incidents, including social engineering and phishing attacks. Furthermore, because the techniques used to obtain unauthorized access to, or to sabotage, systems change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement adequate preventative measures. We may also experience security breaches that may remain undetected for an extended period. Even if identified, we may be unable to adequately investigate or remediate incidents or breaches due to attackers increasingly using tools and techniques that are designed to circumvent controls, to avoid detection, and to remove or obfuscate forensic evidence. Although to our knowledge we have not experienced any such material system failure, accident, or security breach to date, if such an event were to occur and negatively affect, our operations, it could result in a material disruption of our development programs and our business operations. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Further, we cannot assure that our data protection efforts and our investment in information technology will prevent significant breakdowns, data leakages, breaches in our systems or other cyber incidents that could have a material adverse effect upon our reputation, business, operations or financial condition.

Likewise, we rely on our third-party research institution collaborators for research and development of our product candidates and other third parties for the manufacture of our product candidates and to conduct clinical trials, and similar events relating to their information technology systems could also have a material adverse effect on our business. To the extent that any disruption or security incident were to result in an actual or perceived loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information or patient information, we could incur liability and the further development and commercialization of our product candidates could be delayed. Furthermore, significant disruptions of our internal information technology systems or security breaches could result in the loss, misappropriation, and/or unauthorized access, use, or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information, and personal information), which could result in financial, legal, business, and reputational harm to us. For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our clinical trial subjects or employees, could harm our reputation directly, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information, which could result in significant legal and financial exposure and reputational damages that could potentially have an adverse effect on our business. Further, our insurance coverage may not be sufficient to cover the financial, legal, business or reputational losses that may result from an interruption or breach of our systems.

We have and will enter into collaboration, license, contract research and/or manufacturing relationships with organizations that operate in certain countries that are at heightened risk of theft of technology, data and intellectual property through direct intrusion by private parties or foreign actors, including those affiliated with or controlled by state actors. Accordingly, our efforts to protect and 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, and we may be at heightened risk of losing our proprietary intellectual property rights around the world, including outside of such countries, to the extent such theft or intrusion destroy the proprietary nature of our intellectual property.

We may be subject to claims that our employees, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other biotechnology or biopharmaceutical companies. Although we try to ensure that individuals working for or collaborating with us do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants, or independent contractors have inadvertently or otherwise used or disclosed confidential information proprietary to these third parties or our employees' former employers, or that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement. We may be subject to claims that patents and applications we have filed to protect inventions of our employees, consultants, advisors or other third parties, even those related to one or more of our product candidates, are rightfully owned by their former or concurrent employer. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees. If our defenses to these claims fail, in addition to requiring us to pay monetary damages, a court could prohibit us from using technologies or features that are essential to our product candidates, if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers. Moreover, any such litigation or the threat thereof may adversely affect our reputation, our ability to form strategic alliances or sublicense our rights to collaborators, engage with scientific advisors or hire employees or consultants, each of which would have an adverse effect on our business, results of operations and financial condition. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

We could be subject to securities class action litigation.

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, which would harm our business, operating results, or financial condition. Additionally, the dramatic increase in the cost of directors' and officers' liability insurance may cause us to opt for lower overall policy limits or to forgo insurance that we may otherwise rely on to cover significant defense costs, settlements, and damages awarded to plaintiffs.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements, particularly in the sections titled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business." In some cases, you can identify these statements by forward-looking words such as "aim," "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "should," "would" or "will," the negative of these terms and other comparable terminology. These forward-looking statements, which are subject to risks, include, but are not limited to, statements about:

- our expectations regarding the potential market size and size of the potential patient populations for our product candidates and any future product candidates, if approved for commercial use;
- our clinical and regulatory development plans including any anticipated program milestones related thereto;
- the ability of our clinical trials to demonstrate safety and efficacy of our product candidates, and other positive results;
- our expectations with regard to the results of our clinical studies, preclinical studies and research and development programs, including the timing and availability of data from such studies;
- our estimates of the number of patients that we will enroll in our clinical trials and the timing of their enrollment;
- the timing of commencement of future preclinical studies and clinical trials and research and development programs;
- our ability to acquire, discover, develop and advance product candidates into, and successfully complete, clinical trials;
- our ability to reduce the time or increase the likelihood of success of our research and development relative to the traditional drug discovery paradigm using our precision neuroscience approach;
- our ability to improve, and the rate of improvement in, our precision neuroscience approach, or to realize benefits from such improvements;
- our expectations related to our precision neuroscience approach, including but not limited to whether it will have the same impact as data-driven precision medicine has had on the oncology field;
- our ability to achieve our mission to redefine neuroscience drug development by bringing forward the next generation of novel therapies that offer improved treatment outcomes and quality of life for patients suffering from brain diseases;
- our ability to scale our company;
- the timing of milestone payments;
- our intentions and our ability to establish collaborations and/or partnerships, and whether such collaborations and/or partnerships are successful;
- the timing or likelihood of regulatory filings and approvals for our product candidates;
- our commercialization, marketing and manufacturing, including any capabilities and expectations related thereto;
- our ability to keep pace with new technological developments;
- impact from future regulatory, judicial, and legislative changes or developments in the United States and foreign countries;
- our intentions with respect to the commercialization of our product candidates, if approved;
- the pricing and reimbursement of our product candidates, if approved;

- the implementation of our business model and strategic plans for our business and product candidates, including additional indications for which we may pursue;
- our ability to maintain our technical operations infrastructure to avoid errors, delays, or cybersecurity breaches;
- our ability to effectively manage our growth, including our ability to retain and recruit personnel, and maintain our culture;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates, including the projected terms of patent protection;
- estimates of our expenses, future revenue, capital requirements, our needs for additional financing and our ability to obtain additional capital;
- our expected use of proceeds from this offering and our existing cash, cash equivalents and marketable securities;
- the period over which we estimate our existing cash, cash equivalents, and marketable securities and the net proceeds from this offering will be sufficient to fund our future operating expenses and capital expenditure requirements;
- the performance of our third-party suppliers and manufacturers;
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act;
- the impact to our business from general political conditions, including but not limited to, disruptions in U.S. government operations and funding, geopolitical conflicts such as the war between Russia and Ukraine and any sanctions or other repercussions that may result therefrom;
- the impact to our business from general economic conditions, including but not limited to, rising inflation, recession risk, low consumer confidence and increasing interest rates;
- the potential effects of the COVID-19 pandemic, or other public health crises, on our clinical and preclinical programs and business;
- developments and projections relating to our competitors and our industry, including competing products; and
- other risks and uncertainties, including those listed under the caption “Risk Factors” in this prospectus.

We have based these forward-looking statements largely on our current expectations, estimates, forecasts and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. In light of the significant uncertainties in these forward-looking statements, you should not rely upon forward-looking statements as predictions of future events. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur at all. You should refer to the section titled “Risk Factors” for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. The Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act do not protect any forward-looking statements that we make in connection with this offering.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

INDUSTRY AND MARKET DATA

Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate, including our general expectations and market position, market opportunity and market size, is based on information from various sources on assumptions that we have made that are based on such information and other, similar sources and on our knowledge of, and expectations about, the markets for our products. In some cases, we do not expressly refer to the sources from which this data is derived. This information involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including but not limited to those described in the section titled “Risk Factors” and elsewhere in this prospectus. These and other factors could cause results to differ materially from those expressed in the estimates made by independent third parties and by us.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately $227.5 million (or approximately $262.3 million if the underwriters exercise their option to purchase additional shares in full), assuming an initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the initial public offering price per share would increase or decrease, as applicable, our net proceeds, after deducting estimated underwriting discounts and commissions, by $13.7 million (assuming no exercise of the underwriters' option to purchase additional shares). Each increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, our net proceeds by $15.8 million, assuming an initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to obtain additional capital to fund our operations, create a public market for our common stock, facilitate our future access to the public equity markets, and increase awareness of our company among potential partners.

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

- approximately $395.0 million to fund the clinical and preclinical development of our current programs;
- approximately $30.0 million to fund research and development activities for additional programs; and
- the remainder for working capital and other general corporate purposes.

We may also use a portion of the net proceeds to in-license, acquire, or invest in, complementary technologies, assets, or intellectual property. We regularly evaluate strategic opportunities; however, we have no current commitments to enter into any such license arrangements or acquisition agreements or to make any such investments.

Based on our current operating plan, we believe that our existing cash, cash equivalents and marketable securities, together with the net proceeds from this offering, will be sufficient to meet our working capital and capital expenditure needs for at least the next 30 months. Our expected use of net proceeds from this offering represents our current intentions based upon present plans and business conditions.

The net proceeds from this offering, together with our existing cash, cash equivalents and marketable securities, will not be sufficient to fund any of our product candidates through regulatory approval, and we anticipate needing to raise additional capital to complete the development of and commercialize our product candidates. 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 any expenditures will vary depending on numerous factors, including the progress of our planned clinical studies, the amount of cash used by our operations, the amount and timing of any milestone payments we may be required to make, competitive, scientific and data science developments, the rate of growth, if any, of our business, and other factors described in the section titled "Risk Factors." Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from this offering, and investors will be relying on the judgment of our management regarding the application of these net proceeds. Due to the many inherent uncertainties in the development of our product candidates, the amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our research and development, our ability to obtain additional financing, the cost and results of our preclinical activities, the timing of clinical studies we may commence in the future, the timing of regulatory submissions, any collaborations that we may enter into with third parties for our product candidates or strategic opportunities that become available to us, and any unforeseen cash needs.

Pending the uses described above, we intend to invest the net proceeds from this offering in interest-bearing obligations, investment-grade instruments, certificates of deposit, or direct or guaranteed obligations of the U.S. government.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock and do not anticipate paying any cash dividends in the foreseeable future. We currently anticipate that we will retain all available funds for use in the operation and expansion of our business. Any future determination as to the declaration or payment of dividends on our common stock will be made at the discretion of our board of directors and will depend upon, among other factors, our financial condition, results from operations, current and anticipated cash needs, plans for expansion and other factors that our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and marketable securities and total capitalization as of June 30, 2023:

- on an actual basis;
- on a pro forma basis to reflect the following immediately prior to the completion of this offering: (i) the conversion of all of our outstanding convertible preferred stock into an aggregate of 104,417,415 shares of our common stock, (ii) the related reclassification of our convertible preferred stock aggregate carrying value to permanent equity, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation, which will be effective 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 14,710,000 shares of common stock by us in this offering at the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, of which $2.4 million had been paid as of June 30, 2023 and $1.2 million had been accrued as of June 30, 2023.

The pro forma as adjusted information discussed below is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. This table should be read in conjunction with the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our unaudited condensed consolidated financial statements and related notes included elsewhere in this prospectus.

	As of June 30, 2023		
	Actual	Pro Forma	Pro Forma as Adjusted(1)
	(unaudited) (in thousands, except share amounts)		
Cash, cash equivalents and marketable securities	$ 334,089	$ 334,089	$ 563,914
Convertible preferred stock, $0.0001 par value per share; 820,348,942 shares authorized, 104,417,415 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted	$ 843,687	$ —	$ —
Stockholders’ (deficit) equity:			
Preferred stock, $0.0001 par value per share; no shares authorized, issued or outstanding, actual; 50,000,000 shares authorized, no shares issued or outstanding, pro forma and pro forma as adjusted	—	—	—
Common stock, $0.0001 par value per share; 1,210,000,000 shares authorized, 32,821,681 shares issued and outstanding, actual; 700,000,000 shares authorized and 137,239,096 shares issued and outstanding, pro forma; 700,000,000 shares authorized and 151,949,096 shares issued and outstanding, pro forma as adjusted	3	14	15
Additional paid-in capital	28,581	872,257	1,099,721
Accumulated other comprehensive loss	(448)	(448)	(448)
Accumulated deficit	(541,677)	(541,677)	(541,677)
Total stockholders’ (deficit) equity	(513,541)	330,146	557,611
Total capitalization	$ 330,146	$ 330,146	$ 557,611

(1) The pro forma as adjusted information discussed above is illustrative only and will depend on the actual initial 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 $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, each of pro forma as adjusted cash, cash equivalents and marketable securities, additional paid-in capital, total stockholders' equity and total capitalization by approximately $13.7 million, assuming that the number of shares of 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. Similarly, each increase or decrease of 1.0 million shares of common stock offered by us would increase or decrease, as applicable, each of pro forma as adjusted cash, cash equivalents and marketable securities, additional paid-in capital, total stockholders' equity and total capitalization by approximately $15.8 million, assuming that the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase additional shares of our common stock in full, pro forma as adjusted cash, cash equivalents and marketable securities, additional paid-in capital, total stockholders' equity, total capitalization and shares of common stock outstanding as of June 30, 2023 would be $598.8 million, $1,134.6 million, $592.5 million, $592.5 million, and 154,155,596 shares, respectively.

The number of shares of our common stock to be outstanding after this offering on a pro forma and pro forma as adjusted basis is based on 137,239,096 shares of common stock outstanding as of June 30, 2023 (after giving effect to the conversion of all of our shares of convertible preferred stock outstanding as of June 30, 2023 into an aggregate of 104,417,415 shares of our common stock immediately prior to the completion of this offering) and excludes:

- 11,251,230 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 under our 2020 Plan, with a weighted-average exercise price of $4.69 per share;
- 192,681 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 under the 2015 Plan, with a weighted-average exercise price of $9.83 per share;
- 841,157 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023, subject to market and performance vesting conditions, with a weighted-average exercise price of $2.58 per share;
- 2,414,750 shares of our common stock issuable upon the exercise of stock options granted subsequent to June 30, 2023, with a weighted-average exercise price of $6.86 per share;
- 3,149,287 shares of our common stock reserved for future issuance under our 2020 Plan as of June 30, 2023;
- shares of our common stock we expect to issue to BlackThorn stockholders equal to and in satisfaction of the $90.0 million milestone payment in connection with the dosing of the first patient in the Phase 3 clinical trial for navacaprant, which we expect to occur as part of the KOASTAL-1 study, the issuance of which we expect to occur in the second half of 2023, with such amount of our common stock to be issued to be based on the 30 day trailing average of the open and close price of our common stock on the Nasdaq from the date the milestone was satisfied, which will occur after the completion of this offering;
- a number of shares of our common stock equal to 10% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) plus any shares of our common stock reserved for future issuance under our 2020 Plan that have not been issued pursuant to any outstanding equity grants reserved for future issuance under our 2023 Plan, which will become effective on the date immediately prior to the date our registration statement relating to this offering becomes effective, as well as any future increases in the number of shares of common stock reserved for issuance under the 2023 Plan; and
- a number of shares of our common stock equal to 1% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) reserved for future issuance under our ESPP, which will become effective on the date immediately prior to the date our registration statement relating to this offering becomes effective, as well as any future increases in the number of shares of common stock reserved for issuance under the ESPP.

DILUTION

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

As of June 30, 2023, we had a historical net tangible book value (deficit) of $(517.1) million, or $(15.75) per share of common stock. Our historical net tangible book value (deficit) represents our total tangible assets excluding deferred offering costs, less our total liabilities and convertible preferred stock, which is not included within stockholders' equity (deficit), divided by the total number of shares of our common stock outstanding as of June 30, 2023.

Our pro forma net tangible book value as of June 30, 2023, was $326.6 million, or $2.38 per share. Pro forma net tangible book value represents our total tangible assets excluding deferred offering costs, less our total liabilities, after giving effect to the automatic conversion of all outstanding shares of our convertible preferred stock as of June 30, 2023 into an aggregate of 104,417,415 shares of our common stock as if such conversion had occurred on June 30, 2023. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares of common stock outstanding as of June 30, 2023, after giving effect to the conversion of our convertible preferred stock.

After giving further effect to the issuance and sale by us of the 14,710,000 shares of our common stock in this offering at the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, of which $2.4 million had been paid as of June 30, 2023 and $1.2 million had been accrued as of June 30, 2023, our pro forma as adjusted net tangible book value as of June 30, 2023 would be $557.6 million, or $3.67 per share. This represents an immediate increase in pro forma net tangible book value to our existing stockholders of $1.29 per share and an immediate dilution to new investors of $13.33 per share. Dilution per share to new investors represents the difference between the price per share to be paid by new investors for the shares of common stock sold in this offering and the pro forma as adjusted net tangible book value per share immediately after this offering.

The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share		$17.00
Historical net tangible book value (deficit) per share as of June 30, 2023	$(15.75)	
Pro forma increase in historical net tangible book value (deficit) per share as of June 30, 2023 attributable to the pro forma transactions described above	18.13	
Pro forma net tangible book value per share as of June 30, 2023	2.38	
Increase in pro forma net tangible book value per share attributable to new investors participating in this offering	1.29	
Pro forma as adjusted net tangible book value per share after this offering		3.67
Dilution in pro forma as adjusted net tangible book value per share to new investors participating in this offering		$13.33

The dilution information discussed above is illustrative only and will 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 $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, pro forma as adjusted net tangible book value per share to new investors by $0.09, and would increase or decrease, as applicable, dilution per share to new investors in this offering by $0.91, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, our pro forma as adjusted net tangible book value by approximately $0.08 per share and increase or decrease, as applicable, the dilution to new investors by $0.08 per share, assuming the assumed initial public offering price remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters' option to purchase additional shares is exercised in full, the pro forma as adjusted net tangible book value per share of our common stock would be $3.84 per share, and the dilution in pro forma net tangible book value per share to new investors in this offering would be $13.16 per share, in each case assuming an initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus.

The following table summarizes, as of June 30, 2023, on a pro forma as adjusted basis, the number of shares of common stock purchased from us, the total consideration paid, or to be paid, and the average price per share paid, or to be paid, by existing stockholders and by the new investors, at the assumed initial public offering price of $17.00 per share, the midpoint of the price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and offering expenses payable by us:

	Shares Purchased		Total Consideration		Weighted-Average Price Per Share
	Number	Percent	Amount	Percent	
	(in thousands, except share, per share and percent data)				
Existing stockholders	137,239,096	90.3%	$616,625	71.1%	$ 4.49
New investors	14,710,000	9.7	250,070	28.9	$ 17.00
Total	151,949,096	100.0%	$866,695	100.0%	

Each $1.00 increase or decrease in the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the total consideration paid by new investors and total consideration paid by all stockholders by approximately $13.7 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.

The above table assumes no exercise of the underwriters' option to purchase additional shares. If the underwriters' option to purchase additional shares were exercised in full, our existing stockholders would own 89.0% and our new investors would own 11.0% of the total number of shares of our common stock outstanding upon completion of this offering.

To the extent that stock options are exercised, new stock options are issued under our equity incentive plan or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering. 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.

The foregoing tables and calculations (other than historical net tangible book value) are based on 137,239,096 shares of common stock outstanding as of June 30, 2023 (after giving effect to the conversion of all of our shares of convertible preferred stock outstanding as of June 30, 2023 into an aggregate of 104,417,415 shares of our common stock immediately prior to the completion of this offering) and excludes:

- 11,251,230 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 under our 2020 Plan, with a weighted-average exercise price of $4.69 per share;
- 192,681 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 under the 2015 Plan, with a weighted-average exercise price of $9.83 per share;
- 841,157 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2023, subject to market and performance vesting conditions, with a weighted-average exercise price of $2.58 per share;
- 2,414,750 shares of our common stock issuable upon the exercise of stock options granted subsequent to June 30, 2023, with a weighted-average exercise price of $6.86 per share;
- 3,149,287 shares of our common stock reserved for future issuance under our 2020 Plan as of June 30, 2023;
- shares of our common stock we expect to issue to BlackThorn stockholders equal to and in satisfaction of the $90.0 million milestone payment in connection with the dosing of the first patient in the Phase 3 clinical trial for navacaprant, which we expect to occur as part of the KOASTAL-1 study, the issuance of which we expect to occur in the second half of 2023, with such amount of our common stock to be issued to be based on the 30 day trailing average of the open and close price of our common stock on the Nasdaq from the date the milestone was satisfied, which will occur after the completion of this offering;
- a number of shares of our common stock equal to 10% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) plus any shares of our common stock reserved for future issuance under our 2020 Plan that have not been issued pursuant to any outstanding equity grants reserved for future issuance under our 2023 Plan, which will become effective on the date immediately prior to the date our registration statement relating to this offering becomes effective, as well as any future increases in the number of shares of common stock reserved for issuance under the 2023 Plan; and
- a number of shares of our common stock equal to 1% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) reserved for future issuance under our ESPP, which will become effective on the date immediately prior to the date our registration statement relating to this offering becomes effective, as well as any future increases in the number of shares of common stock reserved for issuance under the ESPP.

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

The following discussion and analysis of our financial condition and results of operations should be read together with the section titled "Summary Consolidated Financial Data," and our audited consolidated financial statements, unaudited condensed consolidated financial statements and related notes included elsewhere in this prospectus. This discussion and analysis 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 regarding our intentions, plans, objectives, and expectations for our business. Our actual results and the timing of selected events could differ materially from those discussed in the forward-looking statements as a result of several factors including those set forth in the section titled "Risk Factors." See also the section titled "Special Note Regarding Forward-Looking Statements."

Overview

We are a clinical-stage biopharmaceutical company founded to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed. We have rapidly scaled our therapeutic pipeline, which currently consists of seven clinical and preclinical neuroscience programs that target novel mechanisms of action for a broad range of underserved neuropsychiatric disorders and neurodegenerative diseases. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which supports numerous anticipated data readouts. Our most advanced product candidate, navacaprant (NMRA-140), is a novel once-daily oral kappa opioid receptor (KOR) antagonist that is being developed for the treatment of major depressive disorder (MDD), which we believe has the potential to provide significant advantages relative to the standard of care, if approved. We are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD and anticipate releasing topline results for the KOASTAL-1 study in the second half of 2024.

We have rapidly scaled our therapeutic pipeline through both business development activities and internal discovery capabilities. Our therapeutic pipeline is comprised of programs for neuropsychiatric disorders and neurodegenerative diseases, each targeting a novel mechanism of action that, where beneficial, can leverage our precision neuroscience approach.

As shown in the table below, our current pipeline comprises seven programs, three of which are expected to be in clinical development by year-end 2023 and four of which are in preclinical development. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which supports numerous anticipated data readouts, including receipt of topline data from our KOASTAL-1 study for navacaprant expected in the second half of 2024.

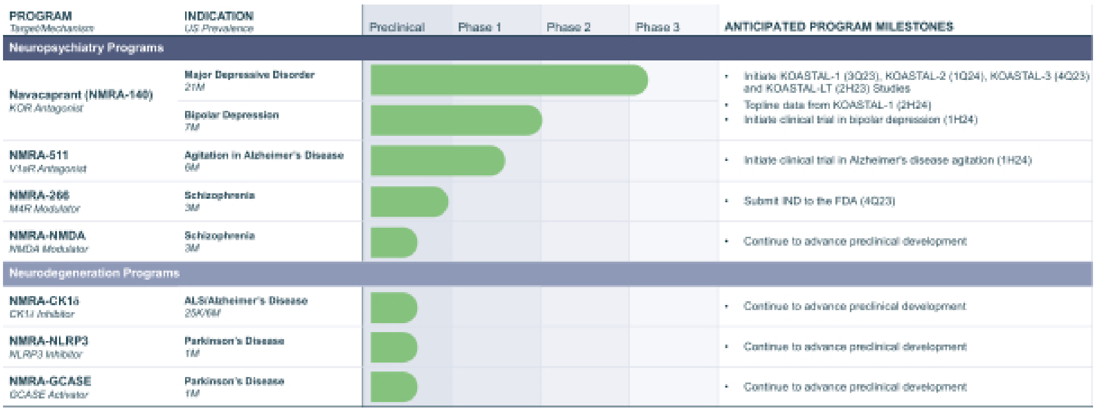


Figure 2: Neumora Pipeline

We were incorporated in November 2019 and commenced operations thereafter. To date, we have focused primarily on building our organization, acquiring technologies and companies, developing our precision neuroscience approach, identifying and developing potential product candidates, executing clinical and preclinical studies, organizing and staffing our company, business planning, establishing our intellectual property portfolio, raising capital and providing general and administrative support for these operations. We do not have any products approved for sale, we have not generated any revenue from the sale of products, and we do not expect to generate revenue from the sale of our product candidates until we complete clinical development, submit regulatory filings, and receive approvals from the applicable regulatory bodies for such product candidates, if ever.

Since our inception, we have incurred significant net losses, which are primarily attributable to acquired intangible in-process research and development intangible asset (IPR&D) costs pursuant to our acquisitions of BlackThorn Therapeutics, Inc. (BlackThorn), Syllable Life Sciences, Inc. (Syllable), Propellex Bio, Inc. (Propellex) and Alairion, Inc. (Alairion), each of which occurred in 2020 and has been accounted for as an acquisition of assets. We expect to continue to incur significant losses for the foreseeable future as we continue to advance the development of our precision neuroscience product candidates and approach, and as we transition to operating as a public company. Our net losses were $237.3 million and $130.9 million for the years ended December 31, 2021 and 2022, respectively, and $74.2 million for the six months ended June 30, 2023. As of December 31, 2022 and June 30, 2023, we had accumulated deficit of $467.5 million and $541.7 million, respectively. Our primary use of our capital resources is to fund our operating expenses, which consist primarily of expenditures related to identifying, acquiring, developing, and in-licensing our precision neuroscience approach and product candidates, and conducting preclinical studies and clinical trials, and to a lesser extent, general and administrative expenditures.

We expect to continue to incur net operating losses for the foreseeable future. In particular, we expect our expenses and losses to increase substantially as we continue our research and development efforts, advance our product candidates through clinical and preclinical development, enhance our precision neuroscience approach and programs, expand our product pipeline, seek regulatory approval, prepare for commercialization, as well as hire additional personnel, protect our intellectual property, and incur additional costs associated with being a public company. We also expect to increase the size of our administrative function to support the growth of our business. Our net losses may fluctuate significantly from period to period, depending on the timing of our clinical trials and our expenditures on research and development activities.

We have primarily funded our operations to date from the sale and issuance of our convertible preferred stock and convertible promissory notes. From our inception through June 30, 2023, we have raised aggregate gross cash proceeds of over $600 million, including from the sale of convertible preferred stock and cash acquired in our acquisitions of assets. As of June 30, 2023, we had $334.1 million in cash, cash equivalents and marketable securities. Based upon our current operating plan, we believe that the net proceeds from this offering, together with our existing cash, cash equivalents and marketable securities, will enable us to fund our operating expenses and capital expenditure requirements through at least the next 30 months from the date of this offering.

We will need substantial additional funding in addition to the net proceeds of this offering to support our continuing operations and pursue our long-term business plan, including to complete the development and commercialization of our product candidates, if approved. Until such time as we can generate significant revenue from sales of our product candidates, if ever, we expect to finance our operations through public or private equity offerings or debt financings or other capital sources, which may include strategic collaborations or other arrangements with third parties, or other sources of financing. We may not be able to raise additional capital on terms acceptable to us or at all. If we are unable to raise additional capital on acceptable terms when needed, our business, results of operations, and financial condition would be adversely affected. The amount and timing of our future funding requirements will depend on many factors including the successful advancement of our precision neuroscience approach, programs, and product candidates. Our ability to raise additional funds may also be adversely impacted by potential worsening global economic conditions and disruptions to, and volatility in, the credit and financial markets in the United States and worldwide, such as those resulting from the ongoing COVID-19 pandemic.

Recent Acquisitions of Assets

BlackThorn Therapeutics, Inc.

In September 2020, we acquired all of the outstanding equity of BlackThorn Therapeutics, Inc. (BlackThorn), a privately held company that was utilizing novel technology-based approaches integrated with data and translational science to link behavioral deficits with brain physiology to discover and develop targeted treatments for neurobehavioral disorders. In connection with our acquisition of BlackThorn, we primarily acquired a group of similar IPR&D assets, comprising two clinical-stage research and development programs involving a Kappa Opioid Receptor Antagonist (navacaprant or NMRA-140) and a Vasopressin Receptor Antagonist (V1a or NMRA-511), as well as a cloud-based computational psychiatry and data platform being developed to support drug target identification, patient stratification and objective clinical trial endpoints (collectively, the BlackThorn IPR&D).

The transaction was accounted for as an acquisition of assets. The total upfront consideration transferred to stockholders of BlackThorn consisted of (i) an aggregate of 5,757,901 shares of our Series A-1 convertible preferred stock, with an acquisition date fair value of $36.6 million, (ii) warrants to purchase 292,193 shares of our Series A-1 convertible preferred stock, with an acquisition date fair value of $0.7 million, plus (iii) cash of $0.1 million. We also agreed to settle $11.0 million in principal and accrued interest due from BlackThorn related to promissory notes that were issued between April and August 2020. As part of the acquisition, we incurred transaction costs of $1.6 million.

The consideration transferred was allocated between the acquired BlackThorn IPR&D in the amount of $48.3 million, which was included in acquired in-process research and development expenses in our consolidated statement of operations and comprehensive loss for the year ended December 31, 2020, and other net assets of $1.7 million.

The former BlackThorn stockholders are entitled to contingent consideration in the form of development, regulatory approval and sales-based milestones of up to an aggregate amount of (i) with respect to navacaprant, in the form of development and regulatory approval milestones of up to an aggregate amount of $365.0 million, which includes a milestone payment of $90.0 million that will become due upon dosing the first patient in the Phase 3 clinical trial for navacaprant, which we expect to pay by issuing an amount of our common stock equal to $90.0 million in the second half of 2023, and sales-based milestones of up to an aggregate amount of $450.0 million and (ii) with respect to NMRA-511, in the form of development and regulatory approval milestones of up to an aggregate amount of $100.0 million and sales-based milestones of up to an aggregate amount of $100.0 million (BlackThorn Milestones). With the exception of one development milestone in the amount of $10.0 million that is required to be settled in cash, the remaining BlackThorn Milestone payments may be settled in cash or shares of our equity, or a combination of both, at our sole discretion. None of the BlackThorn Milestones had been achieved as of June 30, 2023, and no amounts were recognized relating to the BlackThorn contingent consideration during the years ended December 31, 2021, 2022 or the six months ended June 30, 2023.

We also established a carveout plan, pursuant to which each former holder of BlackThorn stock options as of immediately prior to the BlackThorn acquisition closing date was allocated a certain number of units (the BlackThorn Carveout Units) each of which represents a right to receive a portion of the BlackThorn Milestones upon the later of (i) the achievement of a BlackThorn Milestone and (ii) the vesting of the unit. As of June 30, 2023, none of the BlackThorn Milestones had been achieved, no related amounts were recognized as contingent consideration, and we recognized $1.8 million of compensation related to the BlackThorn Carveout Units that had vested based on service.

Syllable Life Sciences, Inc.

In September 2020, we acquired all of the outstanding equity of Syllable, a privately held company focused on the development of advanced machine learning and computer vision technologies to automatically decipher body language in humans and laboratory animals. We primarily acquired proprietary rights and IPR&D of a behavior analysis machine learning and computer vision software tool, which was being developed to identify and quantify behavior as an indicator of neurological conditions (the Syllable IPR&D).

The Syllable transaction was accounted for as an acquisition of assets. The total upfront consideration transferred to the former stockholders of Syllable consisted of 623,837 shares of our Series A-2 convertible preferred stock, with an estimated acquisition date fair value of $4.9 million. As part of the acquisition, we also incurred transaction costs of $0.4 million.

The consideration transferred was allocated between the acquired Syllable IPR&D in the amount of $5.9 million, which was included in acquired in-process research and development expenses in our consolidated statement of operations and comprehensive loss for the year ended December 31, 2020, and net liabilities we assumed of $0.7 million.

The former Syllable stockholders are entitled to contingent consideration in the form of future milestone payments of up to $5.0 million upon the achievement of specified development milestones (the Syllable Milestones). At our sole discretion, the payment of such contingent consideration may be settled in cash or in shares of our equity, or a combination of both. None of the Syllable Milestones had been achieved as of June 30, 2023, and no related amounts were recognized relating to the Syllable contingent consideration during the years ended December 31, 2021, 2022 or the six months ended June 30, 2023.

Alairion, Inc.

In November 2020, we acquired all of the outstanding equity of Alairion, a privately held company focused on the treatment of sleep disorders. We primarily acquired a group of similar IPR&D assets comprised of two preclinical research and development programs involving a H1 receptor antagonist (H1) and a GABA receptor positive allosteric modulator (GABA), as well as a drug discovery and optimization technology platform (collectively, the Alairion IPR&D).

The Alairion transaction was accounted for as an acquisition of assets. The total upfront consideration transferred to the former stockholders of Alairion consisted of the settlement of a senior secured promissory note of $1.8 million due from Alairion related to a promissory note that was issued in September 2020. As part of the acquisition, we incurred transaction costs of $0.3 million.

The consideration transferred was allocated to the acquired Alairion IPR&D in the amount of $4.3 million, which was included in acquired in-process research and development expenses in our consolidated statement of operations and comprehensive loss for the year ended December 31, 2020, and net liabilities we assumed of $2.1 million.

The former Alairion stockholders are entitled to contingent consideration in the form of future milestone payments of up to $33.5 million upon the achievement of specified development events related to the Alairion IPR&D and $135.0 million upon the achievement of specified commercialization events related to the Alairion IPR&D (Alairion Milestones). At our sole discretion, the payment of such contingent consideration may be settled in cash or shares of our equity, or a combination of both. None of the Alairion Milestones had been achieved as of June 30, 2023, and no related amounts were recognized relating to the Alairion contingent consideration during the years ended December 31, 2021, 2022 or the six months ended June 30, 2023. We have ceased the development of our NMRA-094 product candidate for the treatment of OSA, that we acquired from Alairion based on pre-IND feedback we received from the FDA.

For additional details regarding our acquisitions of assets, see Note 7 to our audited consolidated financial statements and Note 6 to our unaudited condensed consolidated financial statements included elsewhere in this prospectus.

Strategic License and Research and Collaboration Agreements

We have assumed license arrangements with certain third parties as a result of our acquisitions, and have entered into several additional agreements with Amgen. Our significant agreements are summarized below. For additional details, see Note 10 to our audited consolidated financial statements and Note 8 to our unaudited condensed consolidated financial statements included elsewhere in this prospectus.

2015 TSRI License Agreement

In connection with the acquisition of BlackThorn in September 2020, we gained rights under a license agreement between BlackThorn and The Scripps Research Institute (TSRI) originally entered into in November 2015, as amended in November 2017 and April 2019 (the 2015 TSRI License Agreement). Pursuant to the 2015 TSRI License Agreement, TSRI granted BlackThorn a worldwide, exclusive license under certain patent rights and a worldwide, non-exclusive license under certain know-how relating to TSRI's Kappa Opioid Receptor (KOR or navacaprant) program, vasopressin 1a receptor (V1aR or NMRA-511) Antagonist program and oxytocin receptors (OTR) positive allosteric modulator program (collectively, the TSRI Programs). In each case, the license agreement grants rights to use, manufacture and commercialize products (i) that are covered by the relevant licensed patents, (ii) that involve the use or incorporation of the licensed know-how or (iii) that are KOR, V1aR or OTR modulators discovered by BlackThorn within two years of the effective date of the 2015 TSRI License Agreement, for diagnostic, prophylactic and/or therapeutic treatment of humans and animals. The license is sublicensable under certain conditions. The technology licensed under the 2015 TSRI License Agreement is used in our navacaprant and NMRA-511 research and development programs.

In exchange for the exclusive rights above, we are obligated, among other things, to pay TSRI (i) a nominal annual license fee due and payable on the first day of each calendar year and after the fourth anniversary creditable against any royalties due for such calendar year, (ii) development and regulatory milestone payments of up to $1.5 million in aggregate for the first product from each TSRI Program, which are contingent upon achieving specific development and regulatory milestone events and (iii) commercial milestone payments of up to $3.5 million in aggregate for each occurrence, which are contingent upon achieving specified commercialization milestone events. We are also obligated to pay tiered low-single digit royalties on future net sales of each royalty-bearing product and a percentage ranging from the mid-single digits to sub teen double digits of any sublicensing revenues we receive. The royalties are payable on a product-by-product and country-by-country basis until the later of expiration of the last to expire valid claim in the licensed patents production in the world and ten years after the first commercial sale of such product in such country. We also paid a change of control success fee to TSRI in shares of our Series A-1 convertible preferred stock with a fair value of $0.3 million. As of June 30, 2023, we had not recorded any milestone or royalty payments under the 2015 TSRI License Agreement.

Harvard License Agreement

In connection with the acquisition of Syllable, we gained rights to a license agreement between Syllable and Harvard (the Harvard License Agreement) entered into in June 2020. Pursuant to the Harvard License Agreement, Syllable obtained an exclusive, worldwide, royalty-bearing, sublicensable license under certain patent rights and copyrights covering certain behavior imagining and behavioral tracking software, to develop and commercialize products and services based thereon.

Under the Harvard License Agreement, Syllable was required to pay Harvard a change of control payment, which we agreed to pay on Syllable’s behalf as part of the acquisition and which was part of the net liabilities we assumed in the transaction. In addition, we are obligated, among other things, to pay Harvard (i) nominal specified annual license maintenance fees that are creditable against any royalty amounts payable for licensed products sold in the same year, (ii) mid-single digit royalties on future net sales of each royalty-bearing product and (iii) a percentage, ranging from the high-teens to low-double-digits, of any sublicensing revenues we receive. The royalties are payable on a product-by-product and country-by-country basis until the later of expiration of the last to expire valid claim in the licensed patents covering such product and the fifteenth anniversary of the first commercial sale of such product in such country.

In March 2021, we entered into an amendment to the Harvard License Agreement to, among other things, extend the timeline for us to meet our development and commercial milestones. Under the Harvard License Agreement, as amended, we are obligated to meet certain development and commercial milestones between December 2021 and January 2024. Failure to meet such milestones would constitute a material breach of contract and would provide Harvard with the right to terminate the agreement subject to the notification and cure periods. We and Harvard agreed to terminate the agreement, effective as of March 31, 2023. Prior to the agreement’s termination, we had not met any of the development or sales-based milestones.

Amgen Licenses and Research and Collaboration Agreement

In September 2021, we entered into two license agreements with Amgen (the Amgen Licenses) pursuant to which we obtained exclusive, worldwide licenses under specified patents and know-how to develop, manufacture, use, commercialize and distribute products containing compounds that are directed to, in one case, CK1d (the CK1d License), and in the other case, GCase (the GCase License), both for the treatment of neurodegenerative diseases and related know-how and clinical material (collectively, the Amgen IPR&D Assets). The acquisition of the Amgen IPR&D Assets became effective on September 30, 2021, the date the Amgen Licenses were executed.

The Amgen Licenses were accounted for as acquisitions of assets. The total upfront consideration transferred to Amgen of 20.0 million shares of our Series A-2 convertible preferred stock, with an estimated acquisition date fair value of $157.0 million, was allocated to the Amgen IPR&D Assets. The consideration transferred for the Amgen IPR&D Assets was included in acquired in-process research and development expenses in our consolidated statement of operations and comprehensive loss for the year ended December 31, 2021.

Under the Amgen Licenses, we agreed to pay Amgen contingent consideration payable in cash up to an aggregate of $360.0 million in commercial milestone payments upon the achievement of certain sales thresholds per licensed product under the CK1d License and up to an aggregate $360.0 million in commercial milestone payments upon the achievement of certain sales thresholds per licensed product under the GCase License. We also agreed to pay tiered royalties at percentages ranging from the low to high-single-digits on annual worldwide net sales of licensed products under the CK1d License, and royalties at a low-single-digit percentage on annual worldwide net sales of licensed products under the GCase License, payable on a licensed product-by-licensed product and country-by-country basis until the later of the expiration of the last to expire licensed patent or Neumora patent claiming the composition of matter of such licensed product and the tenth anniversary of the first commercial sale of such licensed product in such country. Under each Amgen License, the royalty payments are subject to reductions on a country-by-country basis for lack of patent coverage, generic entry, and payment obligations for third-party licenses. As of June 30, 2023, none of the milestones pursuant to the Amgen Licenses have been achieved, and no amounts were recognized related to the contingent consideration milestones.

In addition, until a specified period of time following the achievement of the first successful Phase 2 clinical trial for any licensed product, if we choose to sell, transfer, sublicense or divest rights to a licensed product in certain major markets, Amgen has a time-limited, exclusive right of first negotiation to enter into an agreement with us for such rights.

Concurrently with the Amgen Licenses, we entered into a research collaboration agreement with Amgen (the Amgen Collaboration Agreement) to collectively discover drug targets, biomarkers, and other insights associated with central nervous system (CNS) diseases utilizing Amgen's deCODE genetics and human data research capabilities. Under the Amgen Collaboration Agreement, Amgen grants us an exclusive license under intellectual property generated in the collaboration to exploit therapeutic compounds and diagnostics for use with therapeutics in the CNS field and we grant Amgen an exclusive license under intellectual property generated in the collaboration to exploit therapeutic compounds and diagnostics for use with therapeutics outside of the CNS field.

In return for Amgen performing research activities under the agreement, we are committed to making non-refundable, non-creditable quarterly payments to Amgen over the first two years totaling $50.0 million and for the third year between $12.5 million and $25.0 million depending on whether certain progress milestones are achieved. The term of the Amgen Collaboration Agreement is up to five years, although it will terminate after three years if we and Amgen do not mutually agree upon a compensation structure for years four and five. If we and Amgen do not reach such agreement at least 30 days prior to the end of year three, the Amgen Collaboration Agreement will automatically terminate upon its third anniversary. Further, either we or Amgen can terminate the Amgen Collaboration Agreement upon a material uncured breach or bankruptcy declaration by the other party, in which case all amounts that have become due through the date of termination will be non-refundable.

Amgen also has an exclusive option to negotiate, and the right of first negotiation, to obtain exclusive, worldwide licenses to research, develop, commercialize and otherwise exploit up to two therapeutic compounds or any pharmaceutical product containing such therapeutic compound arising from the collaboration. That right exists with respect to each compound for a certain period of time following positive Phase 2 results for the compound.

Upon execution of the Amgen Collaboration Agreement, we were obligated to start paying Amgen non-refundable quarterly payments of $6.3 million. The eighth non-refundable quarterly payment of $6.3 million became due as of June 30, 2023 and has been recorded within current liabilities, with related amounts recorded within prepaid expenses and other current assets on our condensed consolidated balance sheet as of June 30, 2023.

Additionally, Amgen purchased 12.7 million shares of our Series A-2 convertible preferred stock at a purchase price of $7.85 per share, for total consideration of $100.0 million. Subject to certain conditions, Amgen is also obligated to provide us additional financing of up to $100.0 million. This obligation will terminate upon the completion of this offering.

Vanderbilt License Agreement

We and Vanderbilt University (Vanderbilt) entered into a license agreement in February 2022, as amended in July 2023 (Vanderbilt License Agreement). Pursuant to the Vanderbilt License Agreement, we obtained an exclusive, worldwide, royalty-bearing, sublicensable (subject to certain restrictions) license under certain patent rights and a non- exclusive, worldwide, royalty-bearing, sublicensable (subject to certain restrictions) license under certain know-how covering small molecule positive allosteric modulators (PAMs) predominantly of the muscarinic acetylcholine receptor subtype 4 (M4), to develop, manufacture and commercialize products, processes, and services covered by such patent rights or that incorporate or use such know-how, for any and all uses. We also have an exclusive option, exercisable for a specified period of time, to obtain an exclusive license to certain patent rights conceived or developed by Vanderbilt in the course of carrying out the sponsored research pursuant to a sponsored research agreement between Neumora and Vanderbilt. The last patent expiration date for the licensed patents that are issued or expected to issue, from currently pending or provisional applications, pursuant to the Vanderbilt License Agreement is 2041, excluding any patent term adjustment or patent term extension. The licensed patent rights are subject to Vanderbilt's right to use the patent rights for research, internal non-commercial use and educational purposes.

We have agreed to use commercially reasonable efforts to develop and commercialize licensed products, and to achieve certain development milestones, the first within a specified period following the effective date and the other on or before June 2024. Failure to meet our obligations in accordance with the Vanderbilt License Agreement to achieve such milestones may constitute a material breach of contract that entitles Vanderbilt to terminate the Vanderbilt License Agreement.

Under the Vanderbilt License Agreement, we paid an upfront fee of $13.0 million. We are also obligated to pay Vanderbilt tiered royalties at mid-single-digit percentages on net sales of royalty-bearing products, which are payable on a country-by-country and product-by-product basis until the later of expiration of the last to expire valid claim covering composition of matter in the licensed patents and the tenth anniversary of the first commercial sale of such product in such country. Under the Vanderbilt License Agreement, the royalty payments are subject to reductions on a country-by-country basis for the lack of patent coverage, generic entry and payment obligations for third-party licenses. In addition, we are obligated to pay Vanderbilt a low-double-digit percentage of sublicense income we receive for sublicenses entered into before the achievement of a specified event. We also agreed to pay Vanderbilt payments of up to $42.4 million upon achievement of specified development milestone events for NMRA 266, up to $42.0 million upon achievement of specified development milestone events for products other than NMRA-266, and up to $380.0 million upon achievement of specified commercial milestone events, but in no event will our total milestone payments to Vanderbilt exceed $422.4 million. As of June 30, 2023, no contingent consideration related to the milestones, royalty or other payment (other than the upfront payment described above) has become payable to Vanderbilt pursuant to the Vanderbilt License Agreement.

The Vanderbilt License Agreement will remain in force, on a country-by-country basis, until the expiration of all royalty payment obligations to Vanderbilt in such country. If we bring a patent challenge against any licensed patents, in addition to paying certain costs associated with the proceeding, Vanderbilt may convert the exclusive licenses to non-exclusive licenses or terminate the Vanderbilt License Agreement. If the licensed patents survive the patent challenge, all payments under the agreement will be increased by a specified amount. We have the right to terminate the Vanderbilt License Agreement at any time by providing Vanderbilt with 90 days' prior notice. Vanderbilt has the right to terminate the Vanderbilt License Agreement if we file for bankruptcy. The Vanderbilt License Agreement will automatically terminate if our insurance coverage lapses and is not cured within 90 days. Vanderbilt also has the right to terminate if we fail to make payments, breach our diligence obligations or breach any other material term upon 60 days' prior notice.

COVID-19 Impact

Although the World Health Organization has declared that COVID-19 no longer represents a global health emergency, the actual and perceived impact of COVID-19 and any effect on our business cannot be predicted. As a result, there can be no assurance that we will not experience additional negative impacts associated with COVID-19, which could be significant and may delay our initiation of preclinical studies and clinical trials, interrupt our supply chain, disrupt regulatory activities or have other adverse effects on our business and operations.

Our focus remains on promoting measures intended to help minimize our risk of exposure to the virus for our employees, including policies that allow our employees to work remotely.

The COVID-19 pandemic has also caused significant volatility in public equity markets and disruptions globally that could adversely affect the economies and financial markets, resulting in an economic downturn that could affect our financing prospects.

For additional details regarding the COVID-19 pandemic's impact on our business, operations and prospects, see the section titled "Risk Factors."

Components of Operating Results

Operating Expenses

Research and Development

Research and development expenses consist of external and internal expenses, and primarily relate to our discovery efforts and development of our precision neuroscience approach, programs, and product candidates. We account for acquired in-process research and development expenses from our strategic acquisitions, which accounts for a significant portion of our operating expenses, separately from research and development expenses.

External research and development expenses include, among others, amounts incurred with contract research organizations (CROs), contract manufacturing organizations (CMOs), preclinical testing organizations and other vendors that conduct research and development activities on our behalf. Internal research and development expenses include, among others, personnel-related costs, including salaries, benefits and stock-based compensation for employees engaged in research and development functions, laboratory supplies and other non-capital equipment utilized for in-house research, software development costs and allocated expenses including facilities costs and depreciation and amortization.

Because we are working on multiple research and development programs at any one time, we track our external expenses by the stage of program, clinical or preclinical. However, our internal expenses, including unallocated costs, employees and infrastructure are not directly tied to any one program and are deployed across multiple programs. As such, we do not track internal expenses on a specific program basis.

We expense research and development costs as incurred. Amounts recorded for external goods or services incurred for research and development activities that have not yet been invoiced are included in accrued liabilities in our consolidated balance sheets and often represent estimates. We estimate accrued expenses and the related research and development expense based on the level of services performed but not yet invoiced pursuant to agreements established with our service providers, according to the progress of preclinical studies, clinical trials or related activities, and discussions with applicable personnel and service providers as to the progress or state of consummation of goods and service. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our consolidated financial statements as prepaid expenses or other current assets or accrued liabilities. Nonrefundable advance payments that we make for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses. Such amounts are recognized as an expense as the goods are delivered or the related services are performed, or until it is no longer expected that the goods will be delivered, or the services rendered.

We expect our research and development expenses to increase substantially for the foreseeable future as we incur costs to further develop our precision neuroscience approach and advance our programs and product candidates through clinical development and pursue regulatory approval of our product candidates. The process of conducting the necessary clinical and preclinical research to obtain regulatory approval is costly and time-consuming, and the successful development of our product candidates is highly uncertain. As a result of the uncertainties discussed below, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of our product candidates.

Our research and development expenses may vary significantly based on factors such as:

- per patient trial costs;
- the number of trials required for approval;
- the number of sites included in the trials;
- the countries in which the trials are conducted;
- the length of time required to enroll eligible patients;
- the number of patients that participate in the trials;
- the drop-out or discontinuation rates of patients;
- potential additional safety monitoring requested by regulatory agencies;
- the duration of patient participation in the trials and follow-up;
- the cost and timing of manufacturing our product candidates;
- the phase of development of our product candidates;
- the efficacy and safety profile of our product candidates;
- the number and scope of preclinical and IND-enabling studies;
- the effectiveness of our precision neuroscience approach at identifying target patient populations and utilizing the approach to enrich our patient population in our clinical trials;
- employee-related costs for personnel engaged in the design, development, testing and enhancement of our precision neuroscience related technology;
- the extent to which we establish additional collaboration or license agreements;
- whether we choose to partner any of our product candidates and the terms of such partnership; and
- the impact of general economic conditions, such as rising inflation and increasing interest rates.

A change in the outcome of any of these variables with respect to the development of any of our product candidates could significantly change the costs and timing associated with the development of that product candidate. We may never succeed in obtaining regulatory approval for any of our product candidates. We may obtain unexpected results from our preclinical studies and future clinical trials.

Acquired In-Process Research and Development

Acquired in-process research and development expenses consist of existing research and development projects at the time of the acquisition. Projects that qualify as IPR&D assets represent those that have not yet reached technological feasibility and have no alternative future use. Our acquisitions of assets have all included IPR&D assets that had not yet reached technological feasibility and had no alternative future use, which resulted in a write-off of these IPR&D assets to acquired in-process research and development expenses in our consolidated statement of operations and comprehensive loss.

General and Administrative

General and administrative expenses include, among others, personnel-related costs, including salaries, benefits, and stock-based compensation for our employees in executive, finance, and other administrative functions, legal fees, professional fees incurred for accounting, audit, and tax services, recruiting costs, and other allocated expenses, including facilities costs and depreciation and amortization not included in research and development expenses. Legal fees are included within general and administrative expenses and are related to corporate and intellectual property related matters.

We expect our general and administrative expenses to increase substantially in the foreseeable future as we continue to support our research and development activities, grow our business and, if any of our product candidates receive marketing approval, commence commercialization activities. We also anticipate incurring additional expenses associated with operating as a public company, including increased expenses related to audit, legal, regulatory, and tax-related services associated with maintaining compliance with the rules and regulations of the SEC and standards applicable to companies listed on a national securities exchange, additional insurance expenses, investor relations activities and other administrative and professional services.

Other Income (Expense)

Interest Income

Interest income consists of interest earned on our cash equivalents and marketable securities.

Other Income (Expense), Net

Other income (expense), net consists primarily of changes in the fair value of our convertible preferred stock warrant liability prior to settlement in 2022.

Results of Operations

For the Six Months Ended June 30, 2022 and 2023

The following table summarizes our result of operations for the periods presented:

	Six Months Ended June 30, 2022	Six Months Ended June 30, 2023	Change
	(in thousands)		
Operating expenses:			
Research and development	$ 45,677	$ 62,254	$ 16,577
Acquired in-process research and development	13,000	—	(13,000)
General and administrative	15,873	18,976	3,103
Total operating expenses	74,550	81,230	6,680
Loss from operations	(74,550)	(81,230)	(6,680)
Other income (expense):			
Interest income	870	7,127	6,257
Other income (expense), net	266	(65)	(331)
Total other income	1,136	7,062	5,926
Net loss	$(73,414)	$(74,168)	$ (754)

Research and Development Expenses

The following table summarizes our research and development expenses by program for the periods presented:

	Six Months Ended June 30,		
	2022	2023	Change
		(in thousands)	
Direct external program expenses:			
Navacaprant (NMRA-140) program	$ 5,160	$ 8,859	$ 3,699
NMRA-511 program	305	3,644	3,339
Preclinical programs	8,932	9,489	557
Internal and unallocated expenses:			
Personnel-related costs	12,725	16,844	4,119
Other costs	18,555	23,418	4,863
Total research and development expenses	$45,677	$62,254	$16,577

Research and development expenses increased by $16.6 million, or 36%, from $45.7 million for the six months ended June 30, 2022 to $62.3 million for six months ended June 30, 2023 as we ramped up our clinical and preclinical programs and related activities. Direct external program expenses increased by $7.6 million, of which $3.7 million was related to navacaprant primarily due to start-up activities for our Phase 3 clinical trials, $3.3 million was attributable to NMRA-511 primarily driven by our Phase 1 clinical trial and $0.5 million was attributable to increased research and development activities related to our NMRA-M4R preclinical program. Internal and unallocated expenses increased by $9.0 million, of which $3.3 million related to an increase in contracted research and consulting activities, mainly due to higher activities under the research and collaboration agreements with Amgen and with other vendors. The remaining increase of $5.7 million was mainly driven by $4.1 million in increased personnel-related costs as we grew our headcount and a $1.4 million increase in facilities-related costs mainly due to the sublease of additional premises in August 2022.

Acquired In-Process Research and Development Expenses

Acquired in-process research and development expenses were $13.0 million for six months ended June 30, 2022, which consisted of costs to acquire rights to IPR&D assets upon the execution of our in-license from Vanderbilt in 2022, as these assets had not yet reached technological feasibility and had no alternative future use. There were no in-process research and development expenses for the six months ended June 30, 2023.

General and Administrative Expenses

General and administrative expenses increased by $3.1 million, or 20%, from $15.9 million for the six months ended June 30 2022 to $19.0 million for the six months ended June 30, 2023 as we continued to expand our administrative functions to support our business. The increase was primarily attributable to $1.3 million higher legal and other professional services, $0.8 million higher personnel-related costs, an increase of $0.5 million in external services mainly related to medical affairs and an increase of $0.2 million in business taxes.

Interest Income

Interest income increased by $6.3 million from $0.9 million for the six months ended June 30, 2022 to $7.1 million for the six months ended June 30 2023, which was attributable to increased interest earned on our cash equivalents and marketable securities.

Other Income (Expense), Net

Other income (expense), net was $0.3 million income for the six months ended June 30, 2022, which was primarily attributable to the change in fair value of our convertible preferred stock warrant liability. Other income (expense), net was not material for the six months ended June 30, 2023.

For the Years Ended December 31, 2021 and 2022

The following table summarizes our result of operations for the periods presented:

	Year Ended December 31, 2021	Year Ended December 31, 2022	Change
	(in thousands)		
Operating expenses:			
Research and development	$ 55,776	$ 91,749	$ 35,973
Acquired in-process research and development	157,000	13,000	(144,000)
General and administrative	24,547	31,121	6,574
Total operating expenses	237,323	135,870	(101,453)
Loss from operations	(237,323)	(135,870)	101,453
Other income (expense):			
Interest income	—	4,561	4,561
Other income (expense), net	11	405	394
Total other income	11	4,966	4,955
Net loss	$(237,312)	$(130,904)	$ 106,408

Research and Development Expenses

The following table summarizes our research and development expenses by program for the periods presented:

	Year Ended December 31, 2021	Year Ended December 31, 2022	Change
	(in thousands)		
Direct external program expenses:			
Navacaprant program	$13,583	$ 9,685	$ (3,898)
NMRA-511 program	1,894	860	(1,034)
Preclinical programs	13,100	16,198	3,098
Internal and unallocated expenses:			
Personnel-related costs	19,452	27,445	7,993
Other costs	7,747	37,561	29,814
Total research and development expenses	$55,776	$91,749	$35,973

Research and development expenses increased by $36.0 million, or 64%, from $55.8 million for the year ended December 31, 2021 to $91.7 million for the year ended December 31, 2022 as we ramped up our preclinical programs and discovery activities. Direct external program expenses decreased by $1.8 million which was attributable to lower CRO costs of $3.3 million mainly due to the completion of our Phase 2 trial of navacaprant in June 2022, partially offset by an increase in other external research and development costs of $1.5 million. Internal and unallocated expenses increased by $37.8 million, of which $8.0 million was attributable to personnel-related costs as we grew our headcount and $29.8 million attributable to other costs, which was driven by a $26.1 million increase in contracted research and consulting activities, mainly due to higher activities under the research and collaboration agreements with Amgen and Vanderbilt, a $1.9 million increase in facilities-related costs mainly due to the sublease of additional premises in 2022, a $0.8 million increase in professional services and a $0.4 million increase in laboratory supplies.

Acquired In-Process Research and Development Expenses

Acquired in-process research and development expenses were $157.0 million and $13.0 million for the years ended December 31, 2021 and 2022, respectively, which consisted of costs to acquire rights to IPR&D assets upon the execution of our in-licenses from Amgen in 2021 and our in-license from Vanderbilt in 2022, as these assets had not yet reached technological feasibility and had no alternative future use.

General and Administrative Expenses

General and administrative expenses increased by $6.6 million, or 27%, from $24.5 million for the year ended December 31, 2021 to $31.1 million for the year ended December 31, 2022 as we continued to expand our administrative functions to support our business. The increase was primarily attributable to an increase of $6.6 million in personnel-related costs, including an increase of $2.2 million in stock-based compensation, as we grew our headcount.

Interest Income

Interest income was $4.6 million for the year ended December 31, 2022, which was attributable to interest earned on our cash equivalents and marketable securities.

Other Income (Expense), Net

Other income (expense), net was $11 thousand and $0.4 million for the year ended December 31, 2021 and 2022, respectively, which was primarily attributable to fluctuations in the fair value of our convertible preferred stock warrant liability resulting from changes to the underlying assumptions with respect to expected term and volatility.

Unaudited Pro Forma Net Loss Per Share Information

Immediately prior to the completion of this offering, all outstanding shares of our convertible preferred stock will convert into 104,417,415 shares of our common stock. The unaudited pro forma basic and diluted net loss per common share for the year ended December 31, 2022 and six months ended June 30, 2023 was computed using the weighted-average number of shares of common stock outstanding, including the pro forma effect of the conversion of all outstanding shares of convertible preferred stock into shares of common stock, as if such conversion had occurred at January 1, 2022 and 2023, respectively, irrespective of when the convertible preferred stock was issued. Pro forma net loss per share does not include the shares expected to be sold in this offering.

The following table provides the computation of unaudited pro forma basic and diluted net loss per share for the period presented:

	Year Ended December 31, 2022	Six Months Ended June 30, 2023
	(in thousands except per share amounts)	
Numerator:		
Net loss	$ (130,904)	$ (74,168)
Denominator:		
Weighted-average shares outstanding	27,207	29,703
Pro forma weighted-average shares outstanding, basic and diluted	131,624	134,120
Pro forma net loss per share basic and diluted	$ (1.00)	$ (0.56)

Liquidity and Capital Resources

Sources of Liquidity

As of June 30, 2023, we had $334.1 million of cash, cash equivalents and marketable securities. We have primarily funded our operations with the net proceeds from the sale and issuance of our convertible preferred stock and convertible promissory notes. From inception through June 30, 2023, we have raised aggregate cash proceeds of over $600 million, including from the sale of convertible preferred stock and borrowings pursuant to convertible promissory notes and cash acquired in our acquisitions of assets.

During the year ended December 31, 2021, we issued and sold 24,374,542 shares of our Series A-2 convertible preferred stock in additional closings, resulting in aggregate cash proceeds of $191.3 million. We also issued and sold 12,744,860 shares of our Series A-2 convertible preferred stock in connection with the collaboration and license agreements with Amgen, resulting in cash proceeds of $100.0 million.

During the year ended December 31, 2022, we issued and sold 9,549,715 shares of our Series B convertible preferred stock, resulting in aggregate cash proceeds of $112.4 million.

Since our inception, we have not generated any revenue from the sale of products and we have incurred significant net losses and negative cash flows from operations. Our primary use of our capital resources is to fund our operating expenses, which consist primarily of expenditures related to identifying, acquiring, developing, and in-licensing our precision neuroscience approach, programs, and product candidates, and conducting preclinical studies and clinical trials, and to a lesser extent, general and administrative expenditures. We have not yet commercialized any products and we do not expect to generate revenue from sales of any product candidates for a number of years, if ever. We had accumulated deficits of $467.5 million and $541.7 million as of December 31, 2022 and June 30, 2023, respectively.

Future Funding Requirements

We expect our expenses and operating losses will increase substantially over the foreseeable future as we continue our research and development efforts, advance our product candidates through clinical and preclinical development, enhance our precision neuroscience approach and programs, expand our product pipeline, seek regulatory approval, prepare for commercialization, as well as hire additional personnel, protect our intellectual property and incur additional costs associated with being a public company. We also expect to increase the size of our administrative function to support the growth of our business. Our net losses may fluctuate significantly from period to period, depending on the factors described below. We are subject to the risks typically related to the development of new products, and we may encounter unforeseen expenses, difficulties, complications, delays, and other unknown factors that may adversely affect our business. The expected increase in expenses will be driven in large part by our ongoing activities, and our future capital requirements will depend on many factors, including:

- the scope, timing, progress, costs and results of discovery, preclinical development and clinical trials for our current or future product candidates;
- the number 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;
- the costs associated with acquiring or licensing additional product candidates, technologies or assets, including the timing and amount of any milestones, royalties or other payments due in connection with our acquisitions and licenses;
- the cost of manufacturing clinical and commercial supplies of our current or future product candidates;
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims, including any claims by third parties that we are infringing upon their intellectual property rights;

- the effectiveness of our precision neuroscience approach at identifying target patient populations and utilizing our approach to enrich our patient population in our clinical trials;
- our ability to maintain existing, and establish new, strategic collaborations 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 access additional multimodal patient datasets;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for any of our product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of our product candidates for which we receive marketing approval;
- expenses 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 payers;
- the effect of macroeconomic trends including inflation and rising interest rates;
- addressing any potential supply chain interruptions or delays, including those related to the COVID-19 pandemic;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in business, products and technologies.

Based upon our current operating plan, we believe that our existing cash, cash equivalents and marketable securities will enable us to fund our operating expenses and capital expenditure requirements through at least the next 12 months from the date of this offering. In addition, based upon our current operating plan, we believe that the net proceeds from this offering together with our existing cash, cash equivalents and marketable securities, will enable us to fund our operating expenses and capital expenditure requirements through at least the next 30 months from the date of this offering. However, we anticipate that we will need to raise additional financing in the future to fund our operations, including the commercialization of any approved product candidates. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect. We may also raise additional financing on an opportunistic basis in the future. We expect to continue to expend significant resources for the foreseeable future.

To complete the development and commercialization of our product candidates, if approved, we will require substantial additional funding. Until such time as we can generate significant revenue from sales of our product candidates, if ever, we expect to finance our operations through public or private equity offerings or debt financings or other capital sources, which may include strategic collaborations or other arrangements with third parties, or other sources of financing. We may not be able to raise additional capital on terms acceptable to us or at all. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be or could be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our 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, including restricting our operations and limiting our ability to incur liens, issue additional debt, pay dividends, repurchase our common stock, make certain investments or engage in merger, consolidation, licensing, or asset sale transactions. If we raise funds through strategic collaborations, partnerships, and other similar arrangements with third parties, we may be required to grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. If we are unable to raise additional capital on acceptable terms when needed, our business, results of operations, and financial condition would be adversely affected.

Our ability to raise additional funds may be adversely impacted by potential worsening global economic conditions and the recent disruptions to, and volatility in, the credit and financial markets in the United States and worldwide resulting from the ongoing COVID-19 pandemic. If we fail to obtain necessary capital when needed on acceptable terms, or at all, it could force us to delay, limit, reduce or terminate our product development programs, future commercialization efforts or other operations. Because of the numerous risks and uncertainties associated with research, product development and commercialization of product candidates, we are unable to predict the timing or amount of our working capital requirements or when or if we will be able to achieve or maintain profitability.

Cash Flows

The following table summarizes our cash flows for the periods presented:

	Six Months Ended June 30,	
	2022	2023
	(in thousands)	
Net cash (used in) provided by:		
Operating activities	$ (58,766)	$ (64,063)
Investing activities	(176,676)	26,895
Financing activities	1,732	393
Net decrease in cash and cash equivalents and restricted cash	$ (233,710)	$ (36,775)

Operating Activities

Net cash used in operating activities for the six months ended June 30, 2022 was $58.8 million, which consisted of a net loss of $73.4 million and a change in net operating assets and liabilities of $2.3 million, which was partially offset by $17.0 million in noncash charges. Changes in our net operating assets and liabilities primarily resulted from a decrease of $8.9 million in accounts payable and accrued liabilities due to the payment of annual bonuses and timing of our accounts payable and a decrease of $0.4 million in operating lease liabilities, partially offset by a decrease of $7.0 million in prepaid expenses and other current assets and other assets primarily related to our collaboration with Amgen. The noncash charges primarily consisted of $13.0 million of IPR&D assets acquired from Vanderbilt that were expensed to acquired in-process research and development upon acquisition because the assets had not yet reached technological feasibility and had no alternative future use, $3.4 million of stock-based compensation, $0.5 million of noncash operating lease expense and $0.3 million of depreciation and amortization, partially offset by $0.2 million change in fair value of convertible preferred stock warrants.

Net cash used in operating activities for the six months ended June 30, 2023 was $64.1 million, which consisted of a net loss of $74.2 million, which was partially offset by $4.7 million in noncash charges and a change in our net operating assets and liabilities of $5.4 million. The noncash charges primarily consisted of $4.7 million of stock-based compensation, $1.6 million of noncash operating lease expense and $0.3 million of depreciation and amortization, partially offset by $2.0 million of net accretion of discounts on marketable securities. The change in our net operating assets and liabilities primarily resulted from a decrease of $3.6 million in prepaid expenses and other current assets related to our collaboration with Amgen and an increase of $3.4 million in accounts payable and accrued liabilities due to the timing of our accounts payable, partially offset by a decrease of $1.6 million in operating lease liabilities.

Investing Activities

Net cash used in investing activities for the six months ended June 30, 2022 was $176.7 million, which consisted of $165.8 million of purchases of marketable securities, $13.0 million of cash used to acquire IPR&D

assets from Vanderbilt and $0.4 million of purchases of property and equipment primarily to support our research and development activities, partially offset by proceeds of $2.5 million from maturities of marketable securities.

Net cash provided by investing activities for the six months ended June 30, 2023 was $26.9 million, which primarily consisted of $103.1 million of proceeds from sales and maturities of marketable securities, partially offset by $76.1 million of purchases of marketable securities.

Financing Activities

Net cash provided by financing activities for the six months ended June 30, 2022 was $1.7 million, which consisted of $2.5 million of proceeds from exercise of stock options, partially offset by $0.7 million of payments for deferred offering costs.

Net cash provided by financing activities for the six months ended June 30, 2023 was $0.4 million, which primarily consisted of $1.0 million of proceeds from exercise of stock options, partially offset by $0.5 million of repurchase of unvested early exercised stock options and $0.1 million of payments for deferred offering costs.

The following table summarizes our cash flows for the periods presented:

	Year Ended December 31,	
	2021	2022
	(in thousands)	
Net cash (used in) provided by:		
Operating activities	$ (75,420)	$ (114,896)
Investing activities	(817)	(168,013)
Financing activities	293,507	115,743
Net change in cash and cash equivalents and restricted cash	$ 217,270	$ (167,166)

Operating Activities

Net cash used in operating activities for the year ended December 31, 2021 was $75.4 million, which consisted of a net loss of $237.3 million and a change in our net operating assets and liabilities of $1.0 million, partially offset by $162.9 million in noncash charges. Changes in our net operating assets and liabilities primarily resulted from an increase of $3.7 million in other assets and an increase of $2.3 million in prepaid expense and other current assets related to our quarterly collaboration payment to Amgen and a decrease $0.8 million in operating lease liabilities, partially offset by an increase of $5.8 million in accounts payable and accrued liabilities as we grew our operations. The noncash charges primarily consisted of $157.0 million IPR&D assets acquired from Amgen that were expensed to acquired in-process research and development upon acquisition because the assets had not yet reached technological feasibility and had no alternative future use, $4.3 million of stock-based compensation, $1.0 million of noncash operating lease expense and $0.5 million of depreciation and amortization.

Net cash used in operating activities for the year ended December 31, 2022 was $114.9 million, which consisted of a net loss of $130.9 million and a change in our net operating assets and liabilities of $6.9 million, partially offset by $10.0 million in noncash charges and $13.0 million IPR&D assets acquired from Vanderbilt that were expensed to acquired in-process research and development upon acquisition because the assets had not yet reached technological feasibility and had no alternative future use. Our net operating assets and liabilities primarily resulted from a decrease of $2.9 million in accounts payable and accrued liabilities due to the timing of our accounts payable, an increase of $2.3 million in prepaid expenses and other current assets and other assets primarily related to our collaboration with Amgen and a decrease of $1.8 million in operating lease liabilities.

The noncash charges primarily consisted of $8.3 million of stock-based compensation, $2.1 million of noncash operating lease expense and $0.6 million of depreciation and amortization, partially offset by $0.7 million of net accretion of discounts on marketable securities and $0.6 million in change in fair value of convertible preferred stock warrants.

Investing Activities

Net cash used in investing activities for the year ended December 31, 2021 was $0.8 million, which consisted of purchases of property and equipment primarily to support our research and development activities.

Net cash used in investing activities for the year ended December 31, 2022 was $168.0 million, which consisted of $226.4 million of purchases of marketable securities, $13.0 million of cash used to acquire IPR&D assets from Vanderbilt and $0.5 million of purchases of property and equipment primarily to support our research and development activities, partially offset by $71.9 million in proceeds from maturities of marketable securities.

Financing Activities

Net cash provided by financing activities for the year ended December 31, 2021 was $293.5 million, which consisted of $291.2 million of net proceeds from the issuance and sale of shares of our Series A-2 convertible preferred stock, $2.5 million of proceeds from exercise of stock options and $1.0 million of proceeds from the issuance and sale of shares of our common stock, partially offset by $1.1 million of payments for deferred offering costs.

Net cash provided by financing activities for the year ended December 31, 2022 was $115.7 million, which consisted of $112.2 million of net proceeds from the issuance and sale of shares of our Series B convertible preferred stock, $2.7 million of proceeds from exercise of stock options and $1.6 million of proceeds from exercise of warrants, partially offset by $0.7 million of payments for deferred offering costs.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations and other commitments as of December 31, 2022:

	Payments Due by Period				
	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years	Total
	(in thousands)				
Operating lease obligations	$ 4,030	$ 5,440	$ —	$ —	$ 9,470
Amgen research and collaboration obligations	25,000	—	—	—	25,000
Total contractual obligations	$ 29,030	$ 5,440	$ —	$ —	$ 34,470

Our operating lease obligations relate to our office and laboratory facilities located in Massachusetts and California with noncancelable lease terms expiring between 2023 and 2025.

The table includes amounts due to Amgen under our September 2021 research and collaboration arrangement over the next year totaling $25.0 million. Such amount will increase to $37.5 million in the aggregate if certain progress milestones are achieved before the end of next year.

We have entered in a number of acquisitions of assets that are summarized in the subsection titled “Recent Acquisitions of Assets” above. As part of these acquisitions of assets, we are obligated to pay cash and/or stock for future contingent payments that are dependent upon future events, and in some cases, vesting by the recipient of the contingent payment, such as our achievement of certain development, regulatory, and commercial milestones. We have also assumed license arrangements with various third parties, primarily as a result of our acquisitions, and have entered into additional agreements that are summarized in the subsection titled “Strategic License and Research and

Collaboration Agreements" above. In accordance with these agreements, we are obligated to pay, among other items, future contingent payments that are dependent upon future events such as our achievement of certain development, regulatory, and commercial milestones royalties, and sublicensing revenue in the future, as applicable. As of June 30, 2023, in connection with our acquisition of BlackThorn, we expect that a milestone payment of $90.0 million will become due upon dosing the first patient in the Phase 3 clinical trial for navacaprant, which we expect to pay by issuing an amount of our common stock equal to $90.0 million in the second half of 2023. As of June 30, 2023, there are no additional milestones that are expected to be achieved and generating future product sales are uncertain.

In addition, we enter into agreements in the normal course of business with CROs, CMOs and other vendors for research and development services. Such agreements generally provide for termination upon limited written notice. These payments are therefore not included in our contractual obligations table above.

Off-Balance Sheet Arrangements

Since our inception, we did not have, and we do not currently have, any off-balance sheet arrangements as defined in the rules and regulations of the SEC.

Critical Accounting Estimates

Our management's discussion and analysis of the financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with the U.S. generally accepted accounting principles, or GAAP. The preparation of our consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, expenses, and related disclosures. Our estimates are based on historical experience and on various other factors that 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.

While our significant accounting policies are described in Note 2 to our audited consolidated financial statements and our unaudited condensed consolidated financial statements included elsewhere in this prospectus, we believe that the following accounting policies are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

Acquisitions

We evaluate mergers, acquisitions and other similar transactions to assess whether the transaction should be accounted for as a business combination or an acquisition of assets. We first identify who is the acquiring entity by determining if the target is a legal entity or a group of assets or liabilities. If control over a legal entity is being evaluated, we also evaluate if the target is a variable interest or voting interest entity. For acquisitions of voting interest entities, we apply a screen test to determine if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets. If the screen is met, the transaction is accounted for as an acquisition of assets. If the screen is not met, further determination is required as to whether we have acquired inputs and processes that have the ability to create outputs which would meet the definition of a business. Significant judgment is required in the application of the screen test to determine whether an acquisition is a business combination or an acquisition of assets.

For an acquisition of assets, a cost accumulation model is used to determine the cost of the acquisition. Common stock and convertible preferred stock issued as consideration in an acquisition of assets are generally measured based on the acquisition date fair value of the equity interests issued. We also determine if any components of a transaction should be accounted for as a part of an acquisition of assets and which should be accounted for separately. Direct transaction costs are recognized as part of the cost of an acquisition of assets. We also evaluate which elements of a transaction should be accounted for as a part of an acquisition of assets and which should be accounted for separately.

The cost of an acquisition of assets, including transaction costs, are allocated to identifiable assets acquired and liabilities assumed based on a relative fair value basis. Goodwill is not recognized in an acquisition of assets. Any difference between the cost of an acquisition of assets and the fair value of the net assets acquired is allocated to the non-monetary identifiable assets based on their relative fair values. Assets acquired as part of an acquisition of assets that are considered to be IPR&D are immediately expensed unless there is an alternative future use in other research and development projects.

In addition to upfront consideration, our acquisition of assets may also include contingent consideration payments to be made for future milestone events or royalties on net sales of future products. We assess whether such contingent consideration is subject to liability classification and fair value measurement or meets the definition of a derivative. Contingent consideration payments in an acquisition of assets not required to be classified as a liability, or are accounted for as derivatives that qualify for a scope exception from derivative accounting, are recognized when the contingency is resolved, and the consideration is paid or becomes payable. Contingent consideration payments required to be classified as a liability, or accounted for as derivatives and do not qualify for a scope exception from derivative accounting, are recorded at fair value on the date of the acquisition and are subsequently remeasured to fair value at each reporting date. At the time a contingent consideration payment is made, we will determine whether the payment should be expensed or capitalized as an intangible asset based on the status of the IPR&D project. Further, any future payments that are contingent upon continued services to us are treated as compensation and are recognized beginning when it is probable such amounts will become payable through the date that the contingency is met.

We classify cash payments related to purchased intangibles in an acquisition of assets, including IPR&D assets, as a cash outflow from investing activities because we expect to generate future income and cash flows from these assets if they can be developed into commercially successful products.

If the target legal entity is determined to be a variable interest entity and not a business, all tangible and intangible assets acquired, including any IPR&D assets but excluding goodwill, and liabilities assumed, including contingent consideration, are recorded at their fair values. If the acquisition is determined to be a business combination, all tangible and intangible assets acquired, including any IPR&D asset, and liabilities assumed, including contingent consideration, are recorded at their fair value. Goodwill is recognized for any difference between the consideration transferred and our fair value determination. In addition, direct transaction costs in connection with business combinations are expensed as incurred, rather than capitalized.

To date, we have obtained control over, and are considered the accounting acquiror of, all of the entities we have acquired. None of the legal entities we acquired were considered to be variable interest entities, had ever generated revenue, have significant continuing physical facilities or an employee base that will not be integrated into working to support our combined operations, nor did they have any market distribution system, sales force, customers base, long term operating rights or material production techniques or trade names of significance.

Research and Development Expenses and Related Accrued Expenses

We record research and development expenses to operations as incurred. Research and development expenses represent costs incurred by us for the discovery and development of our product candidates and the development of our precision neuroscience technology and include: internal research and development expense, including personnel-related expenses (such as salaries, benefits and noncash stock-based compensation) and other expenses, including laboratory supplies and other non-capital equipment utilized for in-house research, research and consulting expenses, software development costs, license fees and allocated expenses, including facilities costs and depreciation and amortization; external research and development expenses incurred under arrangements with vendors conducting research and development services on our behalf, such as CROs, preclinical testing organizations, or CMOs. Costs to develop our technologies are recorded as research and development expense unless the criteria to be capitalized as internal-use software costs is met.

We have entered into various agreements with CROs and other vendors for clinical, non-clinical and manufacturing services. Payments made prior to the receipt of goods or services to be used in research and development are capitalized and recognized as expense in the period in which the related goods are received or services are realized or consumed. If the costs have been prepaid, this expense reduces the prepaid expenses in the consolidated balance sheets, and if not yet invoiced, the costs are included in accrued liabilities in the consolidated balance sheets. These costs are a significant component of our research and development expenses. We record amortization of prepaid expenses for these costs based on the estimated amount of work completed and in accordance with agreements established with these third parties. Such payments are evaluated for current or noncurrent classification based on when they will be realized. We estimate and record accrued research and development expenses based on the level of services performed but not yet invoiced pursuant to agreements established with our service providers, according to the progress of preclinical studies, clinical trials or related activities, and discussions with applicable personnel and service providers as to the progress or state of consummation of goods and services.

During the course of a clinical trial, the rate of expense recognition is adjusted if actual results differ from our estimates. We make judgments and estimates of accrued expenses as of each balance sheet date in our consolidated financial statements based on the facts and circumstances known at that time. The clinical trial accrual is dependent in part upon the timely and accurate reporting of CROs, CMOs and other third-party vendors. Although we do not expect our estimates to be materially different from amounts actually incurred, our estimates may vary from the actual results. To date, we have not experienced material differences between our accrued expenses and actual expenses.

We have and may continue to enter into license agreements to access and utilize certain technology. We evaluate if the license agreement is an acquisition of an asset or a business. To date, none of our license agreements have been considered to be an acquisition of a business. For acquisitions of assets, the upfront payments to acquire such licenses, as well as any future milestone payments made before product approval, are immediately recognized as acquired in-process research and development expense when due, provided there is no alternative future use of the rights in other research and development projects. These license agreements may also include contingent consideration in the form of cash. We assess whether such contingent consideration is subject to liability classification and fair value measurement or meets the definition of a derivative.

Stock-Based Compensation

We measure and record expense related to all equity awards granted to employees and non-employees, including stock options and restricted stock awards, based on estimated fair values as of their grant dates. For stock-based awards with service conditions only, we recognize expense on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. For awards with performance conditions, we evaluate the probability of achieving the performance conditions at each reporting date. We recognize expense using an accelerated attribution method when it is deemed probable that the performance condition will be met. For awards with both market and service vesting conditions, we recognize expenses using the accelerated attribution method over the derived requisite service period. Stock-based compensation is classified in our consolidated statements of operations and comprehensive loss based on the function to which the related services are provided and is recognized for the portion of awards that have vested. Forfeitures are accounted for as they occur.

The fair value of restricted stock awards is determined on the date of grant based on the estimated fair value of our common stock on that date. The fair value of stock options with service vesting conditions is determined using the Black-Scholes option pricing model, which requires inputs based on certain subjective assumptions. These assumptions include:

- *Fair Value of Common Stock*— See the subsection titled "—Common Stock Valuations" below.
- *Expected Volatility*—As there is no trading history for our common stock, we have determined expected volatility based on the average historical stock price volatility of comparable publicly traded companies and expect to continue to do so until such time as we have adequate historical data

regarding the volatility of our own traded stock price. The comparable companies are chosen based on their similar size, stage in the life cycle or area of therapeutic focus. The historical volatility is calculated based on a period of time commensurate with the expected term assumption.

- *Expected Term*—The expected term of our stock options is estimated using the simplified method for awards that qualify as plain-vanilla stock options. The simplified method calculates the expected term as the average of the time-to-vesting and the contractual life of the stock options.
- *Risk-Free Interest Rate*—We base the risk-free interest rate on the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award.
- *Expected Dividend Yield*—The expected dividend yield is assumed to be zero as we have never paid and have no plans to pay dividends on our common stock in the foreseeable future.

The fair value of stock options with service and market conditions is determined using the Monte Carlo simulation model, which requires inputs based on certain subjective assumptions that determine the probability of satisfying the market condition stipulated in the award to estimate the fair value on the grant date. These assumptions include:

- *Fair Value of Common Stock*—See the subsection titled “Common Stock Valuations” below.
- *Expected Volatility*—As there is no trading history for our common stock, we have determined expected volatility based on the average historical stock price of comparable publicly traded companies chosen based on their similar size, stage in the life cycle or area of therapeutic focus for a period of time commensurate with the expected term assumption.
- *Derived service periods*—The derived service periods were estimated based on duration of the median path from the grant date to the first time each market condition is expected to be met together with the stated 24- or 36-month vesting period.
- *Risk-free rate*—The risk-free interest rate was based on the U.S. Treasury yield curve in effect at the time of grant for time periods approximately equal to the expected term of the relevant award.

See Note 13 to our audited consolidated financial statements and Note 11 to our unaudited condensed consolidated financial statements included elsewhere in this prospectus for information concerning certain of the specific assumptions we used in applying the Black-Scholes option pricing model to determine the estimated fair value of our stock options granted in the periods presented. Such assumptions involve inherent uncertainties and the application of significant judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our stock-based compensation expense could be materially different.

The intrinsic value of all outstanding options as of June 30, 2023 was $140.0 million, based on the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, of which $40.2 million is related to vested options and $99.8 million is related to unvested options.

Common Stock Valuations

As there has been no public market for our common stock to date, the estimated fair value of the common stock underlying our stock options was determined by our board of directors, with input from management, considering our most recently available third-party valuations of common stock and our board of directors’ assessment of additional objective and subjective factors that it believed were relevant, and factors that may have changed from the date of the most recent valuation through the date of the grant, which intended all options granted to be exercisable at a price per share not less than the per share fair value of our common stock underlying those options on the date of grant. We believe that our board of directors has the relevant experience and expertise to determine the fair value of our common stock. Prior to our initial public offering, given the absence of a public trading market for our common stock, the valuations of our common stock were determined in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation* (Practice Aid). The Practice Aid identifies various available methods for allocating enterprise value across classes and series of capital stock to determine the estimated fair value of common stock at each valuation date. In accordance with the Practice Aid, our board of directors considered the following methods:

- *Current value method* (CVM). Under the CVM, enterprise value is determined based on the balance sheet. This value is then first allocated based on the liquidation preference associated with preferred stock issued as of the valuation date, and then any residual value is assigned to the common stock.
- *Option-pricing method* (OPM). Under the OPM, shares are valued by creating a series of call options with exercise prices based on the liquidation preferences and conversion terms of each equity class. The estimated fair values of the preferred and common stock are inferred by analyzing these options.
- *Probability-weighted expected return method* (PWERM). The PWERM is a scenario-based analysis that estimates value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class.

The assumptions we use in the valuation model are based on future expectations combined with management judgment. In the absence of a public trading market, our board of directors with input from management exercised significant judgment and considered numerous objective and subjective factors to determine the fair value of our common stock as of the date of each option grant, including the following factors:

- contemporaneous independent valuations performed by an independent third-party valuation firm;
- the prices of shares of our convertible preferred stock sold to investors in arm’s length transactions, and the rights, preferences, and privileges of our convertible preferred stock relative to our common stock;
- our stage of development and material risks related to our business;
- our results of operations and financial position, including our levels of available capital resources;
- progress of our research and development activities;
- progress of our precision neuroscience approach;
- the lack of marketability of our common stock as a private company;
- the status of strategic transactions;
- the hiring of key personnel and the experience of management;
- the likelihood of achieving a liquidity event, such as an initial public offering or a sale of our company, given prevailing market conditions;
- the market performance of comparable publicly traded companies;
- trends and developments in our industry; and
- external market conditions affecting the life sciences and biopharmaceutical industry sectors.

The assumptions underlying these valuations represented our board of directors and management develop best estimates based on application of these approaches and the assumptions underlying these valuations, giving careful consideration to the advice from our third-party valuation expert. Such estimates involve inherent uncertainties and the application of significant judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our equity-based compensation could be materially different.

Following the closing of our initial public offering, our board of directors will determine the fair market value of our common stock based on the closing price as reported on the date of grant on the primary stock exchange on which our common stock is traded.

For our valuations performed prior to August 2021, we determined the OPM 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. For our valuations performed in August 2021 and subsequently, we determined a hybrid method that probability-weighted the OPM and an IPO scenario was the most appropriate method for determining the fair value of our common stock based on our stage of development and other relevant factors.

JOBS Act Accounting Smaller Reporting Company Elections

We are an "emerging growth company," as defined in 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 those standards apply to private companies.

We have elected to use this extended transition period for complying with certain new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided in the JOBS Act. As a result, our consolidated financial statements may or may not be comparable to companies that comply with new or revised accounting pronouncements as of public companies' effective dates.

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 have elected to 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 the market value of 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 the market value of 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.

Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities.

Interest Rate Risk

We had cash and cash equivalents of $204.2 million as of June 30, 2023 that primarily consisted of bank deposits and money market funds deposited with several financial institutions that may exceed the Federal Deposit Insurance Corporation's insurance limits. We also held marketable securities of $129.9 million as of June 30, 2023. Historical fluctuations in interest rates have not been significant for us and because our investments are primarily short-term in duration we do not believe that a hypothetical 1% change in market interest rates during any of the periods presented would have had a material effect on our consolidated financial statements included elsewhere in this prospectus. We had no outstanding debt as of December 31, 2022 and June 30, 2023.

Recent Accounting Pronouncements

See Note 2 to our audited consolidated financial statements and our unaudited condensed consolidated financial statements included elsewhere in this prospectus for more information about recent accounting pronouncements, the timing of their adoption, and our assessment, to the extent we have made one yet, of their potential impact on our consolidated financial condition or results of operation.

BUSINESS

Our Mission

We are in the midst of a global brain disease crisis that is having a profound and enduring impact on patients, their families and society, and represents one of the greatest medical challenges of our generation. Neuropsychiatric disorders and neurodegenerative diseases affect approximately 1.5 billion individuals globally, are typically chronic and progressive in nature and are a leading cause of disability worldwide, resulting in significant disability and reduced quality of life. It is estimated that since 2019 over $110 billion has been spent on neuroscience research and development in the United States alone, representing approximately 33% of all disease-specific spending. However, only approximately 12% of all new therapies approved during this time period have been for the treatment of brain diseases. We believe the relative lack of progress and innovation within the broader central nervous system (CNS) landscape is due in large part to the field not advancing novel therapies targeting new mechanisms of action and due to therapeutic development that is focused on broad, heterogeneous patient populations classified by subjective clinical symptoms. The time has come to take a fundamentally different approach to the way treatments for brain diseases are developed and bring forward the next generation of therapies that offer improved treatment outcomes and quality of life for patients.

We founded Neumora to redefine neuroscience drug development by (1) building a diversified neuroscience company at scale with a broad therapeutic pipeline and significant capital resources; (2) focusing on therapeutic candidates with novel mechanisms of action; and (3) leveraging a precision neuroscience approach with the goal of maximizing the value of our programs. Our mission is to redefine neuroscience drug development by bringing forward the next generation of novel therapies that offer improved treatment outcomes and quality of life for patients suffering from brain diseases.

Overview

We are a clinical-stage biopharmaceutical company founded to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed. We have rapidly scaled our therapeutic pipeline, which currently consists of seven clinical and preclinical neuroscience programs that target novel mechanisms of action for a broad range of underserved neuropsychiatric disorders and neurodegenerative diseases. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which supports numerous anticipated data readouts. Our most advanced product candidate, navacaprant (NMRA-140), is a novel once-daily oral kappa opioid receptor (KOR) antagonist that is being developed for the treatment of major depressive disorder (MDD), which we believe has the potential to provide significant advantages relative to the standard of care, if approved. We are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD and anticipate releasing topline results for the KOASTAL-1 study, the first of three efficacy studies, in the second half of 2024.

Brain diseases collectively represent one of the largest areas of unmet medical need globally, affecting upwards of 1.5 billion patients. Despite the commercial success of historically approved drugs, the markets for many of the most prevalent brain disorders have been dominated by a single class of drugs, such as serotonin-targeting antidepressants for MDD, leaving patients with a high degree of unmet medical need given the lack of diverse treatment options and mechanisms of action. For example, there are currently over 21 million adults in the United States diagnosed with MDD, 85% of whom either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line selective serotonin reuptake inhibitors (SSRI)/serotonin and norepinephrine reuptake inhibitors (SNRI) and thus progress onto second-line treatment with another SSRI/SNRI. In addition, patients with common neuropsychiatric disorders and neurodegenerative diseases are heterogeneous, presenting diverse symptoms and multiple underlying disease drivers. Despite the inherent heterogeneity of these disorders, patients are generally diagnosed based on broad disease classifications defined by subjective clinical symptoms rather than by specific underlying genetic and biological mechanisms. As a result, clinical development in neuroscience to date has taken a “one-size-fits-all” approach, in contrast to other areas that have employed more of a targeted patient selection approach. From 2011 to 2020, clinical development success rates for new drug candidates that employed patient selection biomarkers were approximately 16% compared to approximately 8% for those without patient selection biomarkers according to BIO; however, clinical success depends on a number of factors and employing a patient selection biomarker approach does not guarantee that our product candidates will be approved and commercialized. We believe the relative lack of progress and innovation within the broader CNS therapeutic landscape is due in large part to an insufficient degree of focus on novel, potentially more therapeutically relevant targets implicated in CNS diseases and clinical development strategies that often yield inconclusive results due to the inherent heterogeneity known to occur in patient populations classified by broad symptomatic domains.

We founded Neumora to confront these challenges by taking a fundamentally different approach to the way treatments for brain diseases are developed. We are redefining neuroscience drug development by:

- ***Building a diversified neuroscience company at scale with a broad therapeutic pipeline and significant capital resources***: We have raised over $600 million in funding and purpose-built an industry-leading team of company builders and neuroscience drug developers. As a result, we have quickly scaled a broad therapeutic pipeline consisting of seven clinical and preclinical programs, which we aim to develop to meet unmet medical need across brain health disorders.
- ***Focusing on therapeutic candidates with novel mechanisms of action***: We believe one of the key drivers in the lack of progress and innovation within the broader CNS landscape is the failure to advance sufficient novel therapies targeting new mechanisms of action. We have built a pipeline of seven clinical and preclinical programs that target novel mechanisms of action with the potential to provide new treatment options to patients that alleviate unmet medical need. Several of our programs target novel mechanisms of actions that have shown preclinical and clinical data from Neumora and other leading biopharmaceutical companies pursuing programs against the same target. For example, another KOR antagonist aticaprant (Janssen Pharmaceuticals) has demonstrated an improvement in depression and anhedonia in prior clinical trials and M4 muscarinic receptor-targeting compounds have demonstrated potential as an approach to treating schizophrenia in multiple, placebo-controlled clinical trials.
- ***Leveraging a precision neuroscience approach with the goal of maximizing the value of our programs***: To better understand the biological drivers of heterogeneous brain diseases and to identify targeted patient populations of interest, we have built our Precision Toolbox, which integrates a suite of translational and clinical tools with proprietary machine learning algorithms and methods, and incorporates insights from analyzing patient data. We have onboarded a vast library of approximately 1 petabyte of longitudinal, multimodal patient data consisting of genetic, imaging, electroencephalogram (EEG), digital and clinical data across a range of neuropsychiatric disorders and neurodegenerative diseases. We believe our Precision Toolbox will enable us to execute potential strategies to gain confidence in a target or indication, help identify biomarkers, enroll the right patients in our clinical studies, optimize clinical trial designs and expand indication expansion opportunities; ultimately, supporting our goal of increasing the likelihood of matching the right drug for the right patient.

Our Pipeline

We have rapidly scaled our therapeutic pipeline through both business development activities and internal discovery capabilities. Our therapeutic pipeline is comprised of programs for neuropsychiatric disorders and neurodegenerative diseases, each targeting a novel mechanism of action that, where beneficial, can leverage our precision neuroscience approach.

As shown in the table below, our current pipeline comprises seven programs, three of which are expected to be in clinical development by year-end 2023 and four of which are in preclinical development. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which supports numerous anticipated data readouts, including receipt of topline data from our KOASTAL-1 study for navacaprant expected in the second half of 2024.

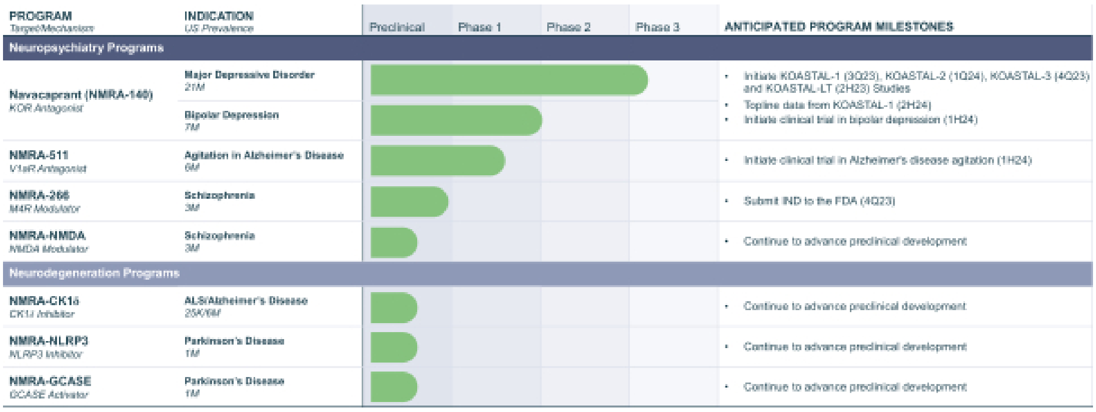


Figure 3: Neumora Pipeline

Navacaprant (NMRA-140) is a novel, oral once-daily, selective KOR antagonist in development for the monotherapy treatment of MDD, which is a chronic neuropsychiatric disorder with significant unmet medical need. There are currently over 21 million adults in the United States diagnosed with MDD, 85% of whom either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line SSRI/SNRI. We are developing navacaprant as a once-daily oral medication designed to modulate the dopamine and reward processing pathways that play an important role in the regulation of mood, cognition, reward and behavior. The KOR/dynorphin system is well-characterized and known to modulate depression, anhedonia and anxiety, and represents a novel approach to treating MDD and other major neuropsychiatric disorders. Following the completion of an End-of-Phase 2 meeting with the U.S. Food & Drug Administration (FDA) in June 2023, we are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD consisting of three efficacy studies: KOASTAL-1, KOASTAL-2 and KOASTAL-3. We anticipate releasing topline results for the KOASTAL-1 study in the second half of 2024. In addition, we intend to explore and evaluate the potential of navacaprant as treatment for other neuropsychiatric populations beyond MDD, including bipolar depression, schizophrenia, post-traumatic stress disorder, generalized anxiety disorder, ADHD, and substance use disorder. We plan to begin these efforts with a clinical trial in bipolar depression that we expect to initiate in the first half of 2024.

NMRA-511 is an investigational antagonist of the vasopressin 1a receptor (V1aR). Vasopressin plays a role in the regulation of aggression, affiliation, stress and anxiety response. Based on our preclinical findings in non-human primates as well as preclinical and clinical results from third parties, we believe V1aR has the potential to be a promising novel target for multiple neuropsychiatric disorders and neurodegenerative diseases across the spectrum of anxiety, aggression and stress. We are currently conducting a Phase 1 multiple ascending dose (MAD) clinical trial of NMRA-511 and plan to advance the program into a clinical trial in patients with agitation associated with dementia due to Alzheimer's disease (AD) in the first half of 2024.

NMRA-266 is a positive allosteric modulator of the M4 muscarini**c** receptor (M4R) for the treatment of schizophrenia and other neuropsychiatric disorders. Our M4R-positive allosteric modulator program is designed to be highly selective for the M4 receptor subtype of the muscarinic receptor family. Muscarinic receptor-targeting compounds have demonstrated robust activity in third-party trials and could be a promising approach to treating schizophrenia (SCZ), with the potential to treat other neuropsychiatric disorders such as dementia-related psychosis and cognitive disorders, where innovation has been stagnant for decades. Selective M4R-positive allosteric modulators have the potential to deliver the antipsychotic efficacy associated with targeting this receptor subtype, while minimizing the side effects associated with current antipsychotics and other non-selective muscarinic agonists. NMRA-266 is in preclinical development and we anticipate submitting an IND to the FDA in the fourth quarter of 2023. We exclusively licensed certain intellectual property rights related to NMRA-266 from Vanderbilt University.

NMRA-NMDA is an NMDA positive allosteric modulator program designed to target the NMDA receptor that we intend to develop for the treatment of SCZ. Recent breakthroughs in third-party psychiatric genetic studies have provided genetic evidence in support of the role of NMDA receptors in SCZ. Further, human studies suggest NMDA receptor antagonists (such as ketamine) lead to a SCZ-like syndrome when dosed in healthy volunteers, which provides compelling evidence for this target. Our NMRA-NMDA program was internally discovered and we have focused on proprietary chemistry which targets a distinct binding site on the target. NMRA-NMDA is in preclinical development.

NMRA-CK1d is a CK1d inhibitor program that we intend to develop for Amyotrophic Lateral Sclerosis (ALS). CK1d is a kinase that has been identified as a proximal upstream regulator of TDP-43 phosphorylation, a key driver of TDP-43-driven pathology in approximately 95% of sporadic ALS cases. There is also genetic evidence supporting the role of TDP-43 in ALS. Our NMRA-CK1d program is in preclinical development. We exclusively licensed certain intellectual property rights related to NMRA-CK1d from Amgen.

NMRA-NLRP3 is an inhibitor program focused on targeting the NLRP3 inflammasome for the treatment of certain neurodegenerative conditions. The inflammasome is a critical part of the innate immune system that responds to pathogens and cellular damage and is implicated in brain disorders, such as PD, as well as immune disorders. The NLRP3 inflammasome can be activated in brain microglia, a type of cell in the brain, and other cell types by a range of proteins linked to neurodegeneration, including alpha-synuclein (a neuronal protein that regulates synaptic vesicle trafficking and is thought to be critical in PD pathogenesis), which suggests the inflammasome may have a mechanistic role in PD. Our NMRA-NLRP3 program was internally discovered and is in preclinical development.

NMRA-GCase is an activator program focused on elevating the activity of the enzyme glucocerebrocidase (GCase) that we are developing for the treatment of PD. Mutations in the GBA gene, which codes for the enzyme GCase, are the single largest genetic risk factor for PD. GCase deficiencies lead to storage disorders of the lysosome, which plays an important role in maintaining cellular balance, and a group of patients with PD has lysosomal dysfunction. Our NMRA-GCase program is in preclinical development. We exclusively licensed certain intellectual property rights related to NMRA-GCase from Amgen.

Our Team

Our people are the backbone of the company and our most important asset. We have assembled a diverse team of experienced company builders and leading neuroscience drug developers, complemented by world-class scientific and technical advisors as well as an experienced board of directors and syndicate of investors. This group shares a long-term commitment to execute our mission to redefine neuroscience drug development by bringing forward the next generation of novel therapies that offer improved treatment outcomes and quality of life for patients suffering from brain diseases.

- ***Experienced Company Builders***. We have multiple individuals with experience building disruptive biopharmaceutical companies. Our Co-Founder, Executive Chairman of our board of directors and former Chief Executive Officer, Paul L. Berns has over 30 years of drug development and commercialization experience and was previously the President, Chief Executive Officer and Chairman of the Board of Anacor Pharmaceuticals before it was acquired by Pfizer in 2016. Henry O. Gosebruch, our President and Chief Executive Officer, spent more than seven years leading corporate strategy and long-range planning across all of AbbVie's therapeutic franchises, including neuroscience, and had responsibility for building and advancing AbbVie's external innovation pipeline. He has advised major biopharmaceutical and other companies for more than 20 years in his former role in the M&A group at J.P. Morgan where he was co-head of M&A for North America. Carol Suh, our Co-Founder and Chief Operating Officer, has co-founded and built multiple biotechnology companies in her role as a Partner of ARCH Venture Partners. Dr. Joshua Pinto, our Chief Financial Officer, spent a decade advising leading biotechnology companies across their life cycles from his career as an investment banker after completing his Ph.D. in neuroscience and working in research.

- ***Leading Neuroscience Drug Developers***. Our scientific leadership team includes world-class physicians and scientists with extensive neuroscience drug development experience. Dr. Bill Aurora, our Chief Strategy Officer, previously served as Chief Scientific Affairs Officer of Dermira and held medical and scientific affairs leadership roles at Neurocrine Biosciences, Merck Research Laboratories and Amgen. Dr. Rob Lenz, our Head of Research and Development, previously served as Senior Vice President, Global Development at Amgen where he was the global development lead for Amgen's neuroscience programs. Dr. Michael Gold, our Chief Medical Officer, previously served as Vice President of Neuroscience Development at AbbVie where he was involved in the successful approval of CNS therapies including the recent approval of VRAYLAR as an adjunctive treatment for MDD. Dr. Nick Brandon, our Chief Scientific Officer, previously served as Chief Scientist of AstraZeneca's Neuroscience Innovative Medicines and Early Development Division, as well as Head of Psychiatry and Behavioral Disorders for a period that bridged the Wyeth and Pfizer Neuroscience organizations.

- ***Board of Directors and Investors with Shared Long-Term Vision***. Our board of directors is comprised of renowned company builders, operators, leaders, scientists and drug developers with experience across a diverse array of companies. Together with our investors, who have supported us with over $600 million in funding, we share a long-term vision to confront the global brain disease crisis at scale.

Our Strategy

We founded our company to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed across neuropsychiatric disorders and neurodegenerative diseases. Our mission is to redefine neuroscience drug development by bringing forward the next generation of novel therapies that offer improved treatment outcomes and quality of life for patients suffering from brain diseases. The key components of our business strategy to deliver on our mission are to:

- ***Build a broad industry-leading pipeline of novel neuroscience therapeutics***. We have rapidly scaled our therapeutic pipeline that includes seven programs across late-stage clinical and preclinical development though business development efforts and our internal discovery capabilities. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which support numerous anticipated data readouts. Our most advanced program, navacaprant is a novel once-daily oral KOR antagonist that is being developed for the treatment of MDD, which we believe has the potential to provide significant advantages relative to the standard of care, if approved. We are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD consisting of three efficacy studies: KOASTAL-1, KOASTAL-2 and KOASTAL-3. We anticipate releasing topline results for the KOASTAL-1 study in the second half of 2024. Including navacaprant, we are currently advancing a pipeline of seven clinical and preclinical therapeutic candidates for neuropsychiatric disorders and neurodegenerative diseases, each targeting a novel mechanism of action.

- ***Advance navacaprant towards commercialization***. Based on the results from the Phase 2 clinical trial, we believe navacaprant has the potential to provide significant advantages relative to the standard of care, if approved. We are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD and anticipate releasing topline results for the KOASTAL-1 study in the second half of 2024. There are currently over 21 million adults in the United States diagnosed with

MDD, 85% of whom either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line SSRI/SNRI. In addition, given the novel mechanism of action in the well-characterized KOR/dynorphin system we intend to explore and evaluate the potential of navacaprant for the treatment of other neuropsychiatric populations beyond MDD, including bipolar depression, schizophrenia, post-traumatic stress disorder, generalized anxiety disorder, ADHD, and substance use disorder. We plan to begin these efforts with a clinical trial in bipolar depression that we expect to initiate in the first half of 2024.

- ***Strategically allocate capital across our pipeline to achieve our mission***. Our therapeutic pipeline is supported by significant capital resources enabling us to build a broad range of novel targets to potentially bring forward the next generation of therapies. We will look to efficiently establish proof-of-concept for our programs by leveraging our precision neuroscience approach and clinical strategies which we believe will inform late-stage development and have the potential to ultimately increase the probability of success.
- ***Leverage our Precision Toolbox to enhance our development efforts***. To better understand the biological drivers of heterogeneous brain diseases and to identify targeted patient populations of interest, we have integrated a suite of proprietary data science and translational neuroscience tools to enhance our development efforts. We believe the insights into patient populations derived from our precision neuroscience tools provide us the potential to identify patient populations most responsive to our novel mechanisms of action to inform our preclinical and clinical development strategies. We believe that insights from our Precision Toolbox will enable us to execute potential strategies to gain confidence in a target or indication, help identify biomarkers that can be used to optimize clinical trial designs and expand indication expansion opportunities; ultimately, supporting our goal of increasing the likelihood of matching the right drug for the right patient.
- ***Capitalize upon our intellectual property (IP) position to realize the full value of our programs that target novel mechanisms of action***. Our strategy to focus on developing programs that target novel mechanisms of action is supported by long-dated composition of matter patents for each of our programs, a differentiating factor from other late-stage clinical programs. For example, our most advanced program candidate navacaprant has composition of matter protection through 2038 and we expect to have base patent term extension exclusivity until 2041. Additionally, we believe our intellectual property estate for each program provides sufficient IP runway to enable clinical trials in multiple indications. We believe our strategy of pursuing novel targeted mechanisms of action will enable us to maintain and pursue composition of matter protection providing us a strategic advantage to support the full value crystallization of our product candidates.

Industry Background and Historical Challenges

The market for therapeutics for brain diseases is large, with over 1.5 billion people suffering globally from neurological conditions accounting for more than $80 billion in worldwide revenue in 2020. Prior generations of approved treatments for neuropsychiatric disorders have experienced substantial commercial success, achieving multi-billion annual sales, including products such as ABILIFY, LATUDA, RISPERDAL, SEROQUEL, and ZYPREXA.

Despite the large market and commercial success of historically approved drugs, the markets for many of the most prevalent brain disorders have been dominated by single classes of drugs, such as serotonin-targeting antidepressants for MDD, dopamine and serotonin-targeting atypical antipsychotics for SCZ, dopamine-targeting medicines for PD, and medicines targeting beta-amyloid for AD. This paucity of innovation in therapeutic targets has led to a lack of diversity in treatment options, leading to underserved patient populations due to the poor efficacy and side-effect profiles of existing therapeutics. In addition, patients with common neuropsychiatric disorders and neurodegenerative diseases are heterogeneous, presenting diverse symptoms and multiple underlying disease drivers. Despite the inherent heterogeneity of these disorders, patients are generally diagnosed based on broad disease classifications defined by subjective clinical symptoms rather than by specific underlying genetic and biological mechanisms. As a result, clinical development in neuroscience to date has taken a “one-size-fits-all” approach, in contrast to other areas that have employed more of a targeted patient selection approach. For example, MDD is an underserved neuropsychiatric disorder that is estimated to affect 5% of the global adult population, approximately 85% of whom either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line SSRI/SNRI. As another example, PD is the world’s most common neurodegenerative movement disorder and fastest growing neurological disorder, yet current treatments do not target the underlying cause of the disease and only address a subset of symptoms, such as motor impairment, dementia or psychosis.

The CNS field has faced challenges in terms of new drug approvals, with only 12% of all new therapies approved since 2019 being for the treatment of brain diseases despite significant investment. It is estimated that since 2019 over $110 billion has been spent on neuroscience research and development during this period in the United States alone, representing approximately 33% of all disease-specific spending. Additionally, from 2011 to 2020, clinical development success rates for new drug candidates that employed patient selection biomarkers were approximately 16% compared to approximately 8% for those without patient selection biomarkers according to BIO; however, employing a patient selection biomarker approach does not guarantee that our product candidates will be approved and commercialized. Further, the total addressable U.S. population impacted by the neuropsychiatric disorders and neurodegenerative diseases targeted by our thereapeutic pipeline is approximately 60 million. The time has come to take a differentiated approach to the way treatments for brain diseases are developed and bring forward the next generation of therapies that offer improved treatment outcomes and quality of life for patients.

Neumora’s Approach

We founded Neumora with the goal of building the leading global brain health company to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed. To achieve this, our mission is to redefine neuroscience drug development by bringing forward the next generation of novel therapies that offer improved treatment outcomes and quality of life for patients with brain diseases by:

Building a Diversified Neuroscience Company At Scale with a Broad Therapeutic Pipeline and Significant Capital Resources

We have raised over $600 million in funding and are supported by a set of leading investors that share our long-term vision to confront the global brain disease crisis at scale. We have leveraged our significant capital resources to quickly scale a broad therapeutic pipeline consisting of seven clinical and preclinical programs and assemble a team of leading company builders and neuroscience drug developers. We believe our scale is a strategic advantage that enables us to think beyond a single program and envision how we can treat the billions of patients suffering from brain disease globally.

Focusing on Therapeutic Candidates with Novel Mechanisms of Action

We believe one of the key drivers in the lack of progress and innovation within the broader CNS landscape is the failure to advance sufficient new therapies targeting novel mechanisms of action. Targeting novel mechanisms of action beyond currently approved agents has the potential to provide differentiated efficacy and safety profile, which could provide physicians with new treatment options and patients with better outcomes. All seven of our clinical and preclinical programs target novel mechanisms of action that are differentiated relative to currently approved therapies.

Leveraging a Precision Neuroscience Approach With the Goal of Maximizing the Value of our Programs

Precision neuroscience involves the development of therapies that leverage the biological basis of disease to match the right patients to the right therapeutics with the goal of improving patient outcomes. To better understand the biological drivers of heterogeneous brain diseases and to identify targeted patient populations of interest, our precision neuroscience approach is powered by our Precision Toolbox, which integrates a suite of translational and clinical tools with proprietary machine learning algorithms and methods, as well as longitudinal, multimodal patient data. We have onboarded a vast library of approximately 1 petabyte of longitudinal, multimodal patient data consisting of genetic, imaging, EEG, digital and clinical data across a range of neuropsychiatric disorders and neurodegenerative diseases, in order to identify targeted patient populations of interest. We believe our Precision Toolbox will enable us to execute potential strategies to gain confidence in a target or indication, help identify biomarkers that can be used to optimize clinical trial designs and expand indication expansion opportunities; ultimately, supporting our goal of increasing the likelihood of matching the right drug for the right patient.

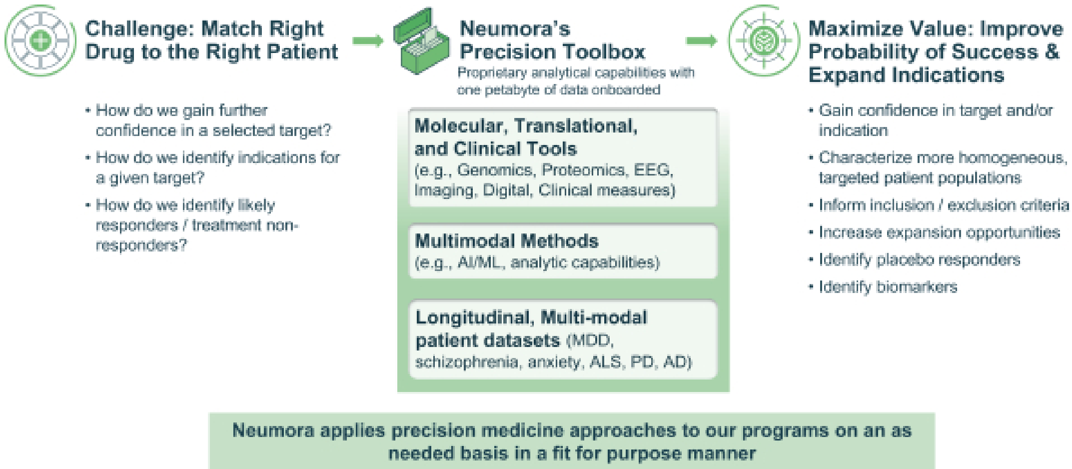


Figure 4: *Neumora's Precision Approach*

Our Pipeline

We have rapidly scaled our pipeline through both internal discovery capabilities and business development activities. Our therapeutic pipeline is comprised of programs for neuropsychiatric disorders and neurodegenerative diseases, each targeting a novel mechanism of action that, where beneficial, can leverage our precision neuroscience approach. As shown in the table below, our current pipeline comprises seven programs, three of which are expected to be in clinical development by year-end 2023 and four of which are in preclinical development. We expect to continue to progress the development of our pipeline with the planned initiation of multiple clinical trials across our programs over the next 12 to 18 months, which supports numerous anticipated data readouts, including receipt of topline data from our KOASTAL-1 study for navacaprant expected in the second half of 2024.

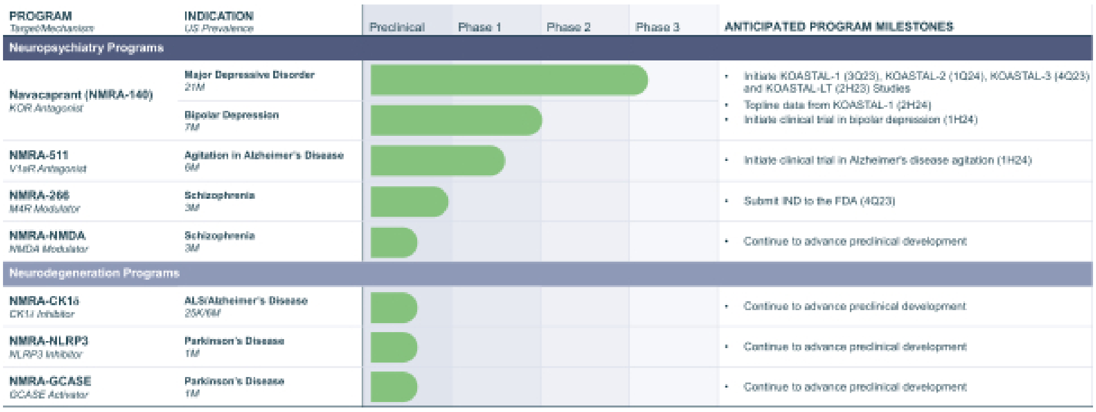


Figure 5: Neumora Pipeline

Navacaprant (NMRA-140) (KOR)

Navacaprant is a novel, oral once-daily, selective KOR antagonist in development for the monotherapy treatment of MDD. There are currently over 21 million adults in the United States diagnosed with MDD, 85% of whom either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line SSRI/SNRI. We are developing navacaprant as a once-daily oral medication designed to modulate the dopamine and reward processing pathways that play an important role in the regulation of mood, cognition, reward and behavior. The KOR/dynorphin system is well-characterized, known to modulate depression, anhedonia and anxiety, and represents a novel approach to treating MDD and other major neuropsychiatric disorders. Following the completion of an End-of-Phase 2 meeting with the U.S. Food & Drug Administration (FDA) in June 2023, we are initiating a pivotal Phase 3 program for navacaprant monotherapy in patients with moderate to severe MDD, consisting of three efficacy studies: KOASTAL-1, KOASTAL-2 and KOASTAL-3. We anticipate releasing topline results for the KOASTAL-1 study in the second half of 2024. In addition, we intend to explore and evaluate the potential of navacaprant as treatment for other neuropsychiatric populations beyond MDD, including bipolar depression, schizophrenia, post-traumatic stress disorder, generalized anxiety disorder, ADHD, and substance use disorder. We plan to begin these efforts with a clinical trial in bipolar depression that we expect to initiate in the first half of 2024.

Indication Overview

Major depressive disorder is one of the leading causes of disability, morbidity and mortality around the world with approximately 264 million people worldwide. MDD is characterized by symptoms such as prolonged sadness, anxiety, and suicidal thoughts. MDD is estimated to impact over 21 million adults in the United States with approximately 11 million receiving pharmacological treatment. Based on an assumed 5% market penetration, this would result in 550,000 patients treated with an agent. A three-fold increase in the prevalence of depressive symptoms has been estimated since the COVID-19 pandemic, exacerbating the significant burden of mental health across America.

Despite numerous approved treatments, there remains a significant unmet medical need in the treatment of MDD. Although MDD is hypothesized to involve multiple, diverse pathways as reflected in the variability of clinical presentation of major depressive episodes and response to treatment, most antidepressant medications act primarily through the monoamine pathway. Approved therapeutics include selective serotonin reuptake inhibitors (SSRIs), serotonin and norepinephrine reuptake inhibitors (SNRIs) and atypical antipsychotics. However, approximately 85% of MDD patients either do not receive treatment with a pharmacological agent or fail to achieve remission with first-line SSRI/SNRI. Further, patients treated for MDD often experience pronounced side effects, such as weight gain, sexual dysfunction, gastrointestinal issues and emotional blunting that contribute to treatment nonadherence. Side effects are a leading contributor to patients' unwillingness to take pharmacological treatment or treatment discontinuation.

In addition, current antidepressants do not adequately treat anhedonia, a core symptom of MDD. Defined in the DSM-5 as "markedly diminished interest or pleasure in all, or almost all, activities most of the day", anhedonia is a key feature of MDD and occurs in up to 70% of individuals with MDD. Anhedonia has been associated with greater severity of depressive symptoms, poor prognosis, as well as higher rates of suicidality. First-line MDD pharmacotherapies often fail to reduce anhedonia severity despite improvement or remission of other depressive symptoms and can induce or worsen anhedonia-like symptoms known as emotional blunting. Current antidepressants do not adequately address symptoms of anhedonia suggesting that their mechanisms of action do not effectively target the hedonic or reward processing pathways. Given the significant and increasing unmet medical need to effectively treat the core symptoms of MDD, a novel treatment for MDD that targets mood and hedonic pathways is warranted.

Target Rationale

Navacaprant is an investigational, small molecule antagonist of the KOR, which is a potentially novel approach to the treatment of MDD that has the potential to be the first new mechanism of action approved in decades. The KOR and endogenous agonist dynorphin, are expressed in brain regions that regulate the effects of stress on mood and cognition. The KOR/dynorphin system is an important mediator of stress-induced alterations in reward processing and a mood state known as dysphoria, which is a state of dissatisfaction, unease and unhappiness. Activation of KOR modulates neuronal circuits associated with many neuropsychiatric disorders, including depression, anhedonia, anxiety, schizophrenia, bipolar depression and obsessive-compulsive disorder.

Multiple lines of evidence establish the KOR system in mediating the effects of stress and reward in preclinical species and humans. In preclinical models of stress (such as forced swim and immobilization) or withdrawal from repeated exposure to drugs of abuse, stimulation of the dynorphin/KOR system can elicit anhedonia- and anxiety-like behaviors. In humans, KOR agonists have been reported to trigger symptoms of dysphoria, anxiety, and depression, while KOR antagonism has led to improvement of depressive symptoms. KOR antagonism blocks the biochemical and behavioral response to stress resulting in antidepressant- and anxiolytic-like behavioral effects.

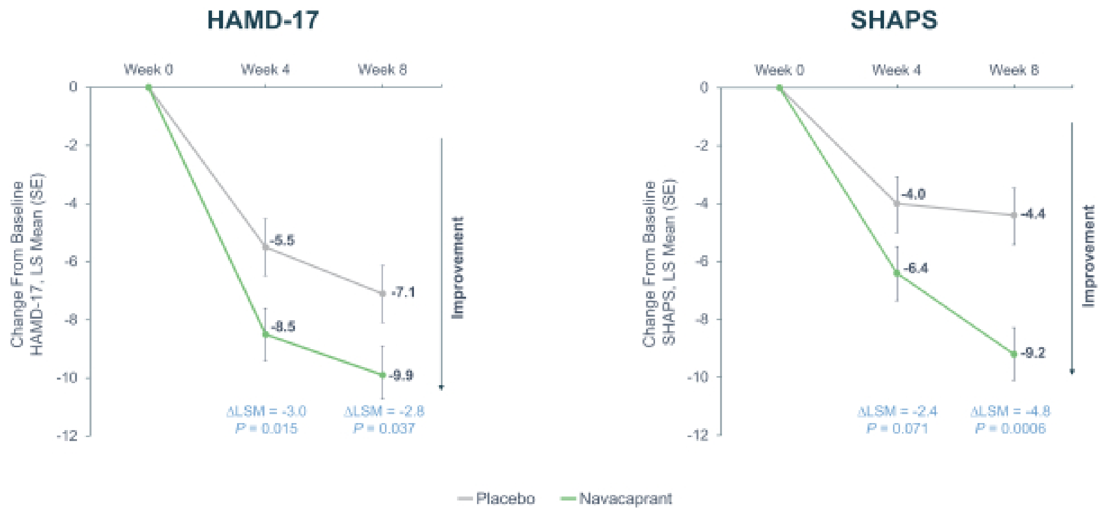
Navacaprant is a potent and selective antagonist for KOR and, in preclinical studies, has shown more than 300-fold selectivity over the Mu opioid receptor (MOR). Selectivity for KOR over MOR may be an important factor to avoid the potential negative side effects associated with MOR activity. Comparatively, other clinical-stage KOR antagonists, including Aticaprant and CVL-354, have approximately 30-fold selectivity over MOR. We believe the selectivity profile of navacaprant has the potential to enable optimal receptor occupancy that supports a beneficial efficacy and tolerability profile. None of our preclinical studies are powered for significance given the purpose of such studies.

Clinical Data

We completed a Phase 2 clinical trial evaluating navacaprant as a monotherapy treatment for patients with MDD. The Phase 2 clinical trial was initiated by BlackThorn Therapeutics prior to our acquisition of BlackThorn. The Phase 2 trial was a double-blind, placebo-controlled, randomized, multi-center trial of navacaprant monotherapy compared to placebo in MDD patients in the United States. Patients were randomized 1:1 to receive either an 80 mg dose of navacaprant or placebo once daily for eight weeks. The primary endpoint was a change from baseline in the HAMD-17 total score, a scale for measuring depressive symptom severity, of navacaprant compared to placebo at Week 8. Key secondary measures included change in anhedonia symptoms from baseline, as assessed by the Snaith–Hamilton Pleasure Scale (SHAPS) total score. Of the 204 patients randomized, 171 patients were included in the final efficacy population (patients with a baseline HAMD-17 total score that received at least one dose of study drug and had at least one post-baseline HAMD-17 assessment), and baseline demographics were balanced between the navacaprant and placebo arms.

The original trial design, when initiated by BlackThorn, specified enrolling solely mild to moderate MDD patients (baseline HAMD-17 total score ranging from 14-22). Following our acquisition of BlackThorn, we amended the trial inclusion criteria to include patients with moderate to severe MDD (baseline HAMD-17 total score ≥ 22), which is the patient population we intend to evaluate in our pivotal Phase 3 program and more typically studied in MDD clinical trials. We also added a prespecified analysis to the Phase 2 statistical analysis plan focused on the moderate to severe MDD population.

The final efficacy population for the pre-specified analysis of moderate to severe MDD (baseline HAMD-17 total score ≥ 22) included 100 adult subjects. In this moderate to severe MDD patient population, once daily dosing with 80 mg of navacaprant resulted in statistically significant (meaning that the results of the study are unlikely to have occurred by chance) treatment differences compared to placebo in depression, as measured by the HAMD-17 total score, and anhedonia, as measured by the SHAPS, each as demonstrated below.



Note: Graphs depict prespecified statistical sensitivity analyses for moderate to severe patients (n=100; baseline HAMD-17 ≥ 22)

Figure 6: Navacaprant: Established Proof-of-Concept for the Treatment of Depression and Anhedonia in Patients with Moderate to Severe MDD

In addition, navacaprant demonstrated statistically significant treatment differences compared to placebo on a range of other key secondary and exploratory measures of depression (HAMD-17 response and remission rates, HAMD-6, CGI-I and CGI-S), anxiety (HAM-A) and function (SDS) in the moderate to severe MDD population, each as demonstrated below.

	Week 4 Difference (p-value)	Week 8 Difference (p-value)
Depressive Symptom Improvement		
HAMD-17 Total Score Change from Baseline	-3.0 (0.015)	-2.8 (0.037)
HAMD-17 Response Rate % ≥50% Reduction in HAMD-17 from Baseline	21.4% (0.010)	25.9% (0.007)
Remission HAMD-17 Score ≤7	14.9% (0.014)	20.3% (0.005)
HAMD-6 Score (Core Symptoms) Change from Baseline in HAMD-6	-2.4 (<0.001)	-1.9 (0.013)
CGI-I % of Patients with Very Much / Much Improvement	12.4% (0.178)	19.0% (0.056)
CGI-S Change from Baseline	NA	-0.5 (0.041)
Anhedonia Symptom Improvement		
SHAPS Total Score Change from Baseline	-2.4 (0.071)	-4.8 (<0.001)
Anxiety Symptom Improvement		
HAM-A Total Score Change from Baseline	-2.4 (0.035)	-1.6 (0.197)
Functional Improvement		
SDS Total Score Change from Baseline	-2.5 (0.146)	-4.0 (0.013)

Note: Prespecified statistical sensitivity analysis for moderate to severe patients (HAMD-17 22)

Figure 7: Demonstrated Improvements Across a Range of Secondary and Exploratory Endpoints in Patients with Moderate to Severe MDD

Navacaprant also demonstrated positive results across the total population (n = 171), which included mildly depressed patients with baseline HAMD-17 scores as low as 14. Navacaprant demonstrated a statistically significant improvement in depression at Week 4 (HAMD-17 LSMD; -2.7, p = 0.003) and continued to demonstrate numerical improvements but did not achieve statistical significance compared to placebo at Week 8 (HAMD-17 LSMD; -1.7, p = 0.121), which was the primary endpoint of the original study designed by BlackThorn. Additionally, navacaprant demonstrated statistically significant improvements in anhedonia as assessed by the SHAPS at Week 4 (SHAPS LSMD; -2.8, p = 0.004) and Week 8 (SHAPS LSMD; -3.4, p = 0.002). These results were consistent with expectations for a population including mild-to-severe patients and supports the trial amendments we made to focus development on the moderate to severe MDD population.

Navacaprant was well tolerated with no severe adverse events. The overall discontinuation rates were higher on placebo compared to navacaprant (37% for placebo and 29% for navacaprant), and discontinuation rates related to treatment emergent adverse events (TEAEs) were higher on placebo compared to navacaprant (12% for placebo and 1% for navacaprant). The incidence rate of TEAEs was 35.3% for the navacaprant group and 44.1 %

for the placebo group. There were no TEAEs for navacaprant with greater than 5% incidence, which was consistent with placebo. The majority of the TEAEs were mild to moderate, with no severe TEAEs reported in the navacaprant group, and 4.9% severe TEAEs reported in the placebo group. Navacaprant was not associated with weight gain or sexual dysfunction. No evidence of suicidal behavior was identified as assessed by the Columbia Suicide Severity Rating Scale. We believe the tolerability profile of navacaprant observed to date will be viewed favorably by patients and physicians relative to other approved agents in use today.

TEAEs Incidence (>2% in either treatment group)

	Placebo n=102	Navacaprant n=102
Preferred Terms	**n (%)**	**n (%)**
Headache	5 (4.9)	5 (4.9)
COVID-19	3 (2.9)	4 (3.9)
Nausea	1 (1.0)	5 (4.9)
Diarrhea	3 (2.9)	2 (2.0)
Upper respiratory tract infection	1 (1.0)	3 (2.9)

Figure 8: Navacaprant Was Well Tolerated with No Serious Adverse Events Observed in the Phase 2 Clinical Trial

Development Plan

We have completed an End-of-Phase 2 meeting with the FDA to guide our pivotal Phase 3 program, the KOASTAL program, focusing on patients with moderate to severe MDD. The pivotal Phase 3 program for navacaprant in monotherapy consists of three randomized, placebo-controlled trials. KOASTAL-1 (Study 301) will be the first study in our Phase 3 program we initiate and will be conducted solely in the United States. KOASTAL-2 (Study 302) and KOASTAL-3 (Study 303) will be identical in design to KOASTAL-1, but will be conducted globally. KOASTAL-LT (Study 501) will be a long-term safety extension study. All three efficacy studies are designed to demonstrate that once-daily 80 mg navacaprant monotherapy improves symptoms of depression in patients with moderate to severe MDD following 6 weeks of double-blind treatment. If successful, these studies are expected to support the filing of a New Drug Application (NDA) in 2025.

The primary endpoint in KOASTAL-1, KOASTAL-2 and KOASTAL-3 will be change from baseline on the Montgomery-Åsberg Depression Rating Scale (MADRS) at Week 6. Secondary endpoints will include measures of anhedonia as captured by SHAPS and measures of anxiety as captured by HAM-A, among other secondary endpoints. The primary endpoint in KOASTAL-LT will evaluate the safety and tolerability profile of navacaprant.

Additional Opportunities for Navacaprant

In addition, we intend to explore and evaluate the potential of navacaprant as treatment for other neuropsychiatric populations beyond MDD, such as bipolar depression (affecting approximately 7 million adults in the United States), schizophrenia (affecting approximately 3 million adults in the United States), post-traumatic stress disorder (affecting approximately 12 million adults in the United States), generalized anxiety disorder (affecting approximately 6.8 million adults in the United States), ADHD (affecting approximately 10 million adults in the United States) and substance use disorder (affecting approximately 20 million adults in the United States).

Our initial efforts beyond MDD will focus on bipolar disorder where we believe there is a strong rationale for navacaprant having the potential to offer a safe and effective alternative the current standard of care for treating bipolar depression.

Bipolar disorder may cause extreme shifts in a person's mood, energy and activity levels. Bipolar and related disorders include bipolar I, bipolar II and cyclothymic disorders. Patients with bipolar I disorder experience episodes of both mania and depression, whereas those with bipolar II disorder experience depressive and hypomanic episodes, but never have a full manic episode. In cyclothymic disorder or cyclothymia, patients experience chronically unstable mood states of hypomania and mild depression. Patients with bipolar disorder are typically treated with mood stabilizers, antidepressants, atypical antipsychotics and anticonvulsants, but despite available medications, patients generally do not respond to treatment. These patients often require multiple lines of therapy, which is associated with significant negative outcomes. Patients with bipolar II disorder are among those with the highest unmet need, due to the atypical symptomology and resistance to current treatment options they often experience.

KOR antagonists like navacaprant have been shown to improve symptoms of depression, including anhedonia, in multiple studies, including the National Institute of Mental Health (NIMH)'s FAST-MAS study, our Phase 2 clinical trial with navacaprant in MDD and additional preclinical studies. In addition to being a cardinal feature in MDD, anhedonia is also a highly prevalent and a clinically relevant symptom in bipolar depression, and there is a growing body of research in the pathophysiologic underpinnings of anhedonia in bipolar depression. Given that navacaprant studies have demonstrated meaningful improvements in anhedonia symptoms in patients with moderate to severe MDD, we believe it may also be effective in treating anhedonia related to bipolar depression.

Given the unmet medical need and rationale for the potential benefit of KOR antagonism in bipolar depression, we plan to initiate a clinical trial evaluating the safety and efficacy of navacaprant in patients with bipolar depression in the first half of 2024. We believe that this clinical trial will provide further data that will inform potential further development of navacaprant in bipolar depression.

Intellectual Property

We expect patent exclusivity for navacaprant through 2041, based on composition of matter protection and estimated patent term extension.

NMRA-511

NMRA-511 is an investigational antagonist of the vasopressin 1a receptor (V1aR). Vasopressin plays a role in the regulation of aggression, affiliation, stress and anxiety response. Based on our encouraging preclinical findings in non-human primates, as well as preclinical and clinical results from third parties, we believe V1aR has the potential to be a promising novel target for multiple neuropsychiatric disorders and neurodegenerative diseases across the spectrum of anxiety, aggression and stress. We are currently conducting a Phase 1 MAD clinical trial of NMRA-511 and plan to advance the program into a clinical trial in patients with agitation associated with dementia due to Alzheimer's disease in the first half of 2024.

Target Rationale

NMRA-511 is an investigational small molecule antagonist of V1aR, which we believe represents a novel approach to the treatment of neuropsychiatric disorders. V1aR is a receptor for arginine vasopressin (AVP), a neuropeptide implicated in a range of physiological processes, including mood and stress.

Preclinical studies support the involvement of the vasopressin system in mediating behaviors across multiple relevant symptoms, including physiological stress responses, aggression, avoidance, fear and anxiety. In rodents, unpleasant stimuli increased vasopressin levels in brain regions implicated in anxiety pathophysiology, as demonstrated through functional neuroimaging and increased V1a receptor binding in hypothalamic regions important in mediating stress responses. Direct administration of vasopressin into the brain of rodents can increase fear and anxiety-like behavior, while systemic administration of V1a receptor antagonists and deletion of the V1aR gene resulted in decreased anxiety-like behaviors. Moreover, evidence that the V1a receptor is important in mediating aggression has been demonstrated using the selective V1a receptor antagonist, SRX251, which reduced aggressive behaviors and suppressed activity in key brain regions involved in aggression. Recently, a small study with SRX246, a V1a receptor antagonist, in human subjects demonstrated reduced anxiety induced by unpredictable threats.

Indication Overview

Alzheimer's disease is the most common cause of dementia, resulting in changes in memory, thinking and behavior. An estimated 6.7 million people in the United States currently live with Alzheimer's disease, and as the population ages, that number is expected to grow to more than 12 million by 2050. Behavioral symptoms including agitation and anxiety represent one of the most challenging aspects of managing Alzheimer's dementia. Researchers estimate that approximately 76% of patients with Alzheimer's dementia experience agitation, which results in significant disability, contributes to institutionalization, and diminishes quality of life for both patients and their caregivers. Despite the substantial unmet medical need associated with agitation in Alzheimer's disease, only one medicine (an atypical antipsychotic) has been approved as a treatment in the United States. However, this medication carries a black box warning for increased mortality in elderly patients. As a result of this black box warning, we believe that an unmet medical need for a safe treatment to address agitation in Alzheimer's disease remains.

Preclinical Data

NMRA-511 is a potent and selective antagonist for V1aR. In preclinical studies, NMRA-511 exhibited greater than 3,000-fold selectivity over the V1b and V2 receptors and approximately 300-fold selectivity over the oxytocin receptor. We conducted preclinical studies in marmosets using an animal model of anxiety/agitation known as the 'human threat test'. In these studies, NMRA-511 reduced measures of anxiety/agitation. In parallel studies in marmosets, brain activity was also measured by means of quantitative electroencephalography (EEG), which revealed changes at different spectral band frequencies at the dose level associated with behavioral improvements, which we believe reflects a measure of pharmacodynamics activity. We believe these preclinical data suggest that NMRA-511 has the potential to address anxiety and agitation disorders.

We also conducted a Phase 1 SAD/MAD clinical trial with 55 healthy volunteers at doses up to 10 mg. In the SAD portion of the trial, 12 subjects received a single dose of NMRA-511 and four subjects received placebo. In the MAD portion of the trial, 18 subjects received multiple doses of NMRA-511 and six subjects received the same number of doses of placebo. Another cohort of 12 subjects received doses of NMRA-511 under one of two treatment sequences of being fed versus fasting to assess the effect of food on the rate and extent of absorption of NMRA-511. NMRA-511 was well tolerated in the Phase 1 SAD/MAD clinical trial. This Phase 1 clinical trial was not powered for significance given the purpose of the clinical trial, which was to help determine the dose of the study drug that can be safely administered to human subjects. Given that the primary purpose of the study was to assess safety and tolerability, the study did not contain formal efficacy endpoints. However, safety and pharmacokinetic endpoints, and exploratory measures of cardiovascular and qEEG parameters were assessed.

The analysis of qEEG collected in the frontal region following oral administration of NMRA-511 to marmosets (10 mg/kg; n=6) and healthy human subjects (15 mg; placebo n=11; NMRA-511 n=6) increased relative power in the theta and alpha bands under physiological/resting state conditions. We believe that these data demonstrated that the pharmacodynamic effects of NMRA-511 seen in marmosets may be translated to humans.

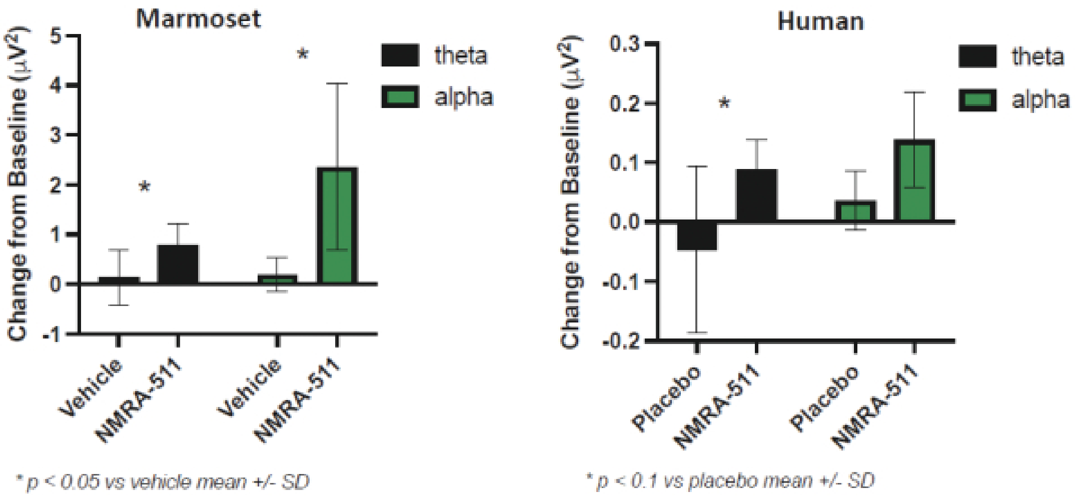


Figure 9: The Pharmacodynamic Activity of NMRA-511 Seen in Marmosets May Be Translated to Humans

Based on preclinical data we have generated, we believe that the profile of NMRA-511 is favorable. For example, the potency (functional IC_{50}) of NMRA-511 was demonstrated to be 0.9nM, with high selectivity over V1b, V2 and oxytocin receptors, as noted above. Additionally, the projected human receptor occupancy for NMRA-511 is greater than 90% for both the 10 mg and 20 mg doses.

Development Plan

We are currently conducting an additional Phase 1 MAD clinical trial of NMRA-511. We plan to use the Phase 1 MAD clinical trial to guide dose selection for future development. We plan to advance clinical development for the treatment of agitation associated with dementia due to Alzheimer's disease in the first half of 2024.

NMRA-266

NMRA-266 is a positive allosteric modulator program of the M4 muscarinic receptor (M4R) for the treatment of schizophrenia. NMRA-266 is designed to be selective for the M4 receptor subtype of the muscarinic receptor family. We expect to submit an IND to the FDA for our M4R program in the fourth quarter of 2023. Muscarinic receptor-targeting compounds have shown robust activity in clinical trials, demonstrating potential as an approach to treating schizophrenia, with the potential to treat other neuropsychiatric disorders such as dementia- related psychosis and cognitive disorders, where innovation has been stagnant for decades. We believe selective M4R-positive allosteric modulators have the potential to deliver antipsychotic efficacy, while minimizing the side effects associated with current antipsychotics and other non-selective muscarinic agonists. We exclusively licensed certain intellectual property rights related to NMRA-266 from Vanderbilt University.

Target Rationale

NMRA-266 is an investigational positive allosteric modulator of the M4 muscarinic receptor. While current antipsychotics approved for schizophrenia work primarily by antagonizing D2 dopamine receptors, growing evidence supports the approach of targeting the M4 muscarinic receptor to produce antipsychotic effects. M4 muscarinic receptor-targeting compounds have shown robust activity in clinical trials, demonstrating potential as an approach to treating schizophrenia in multiple, placebo-controlled clinical trials.

In a Phase 2 randomized, double-blind, placebo-controlled clinical trial (Emergent-1) of 182 schizophrenia patients conducted by Karuna Therapeutics, Inc., an M1/M4-preferring muscarinic agonist combined with a peripheral muscarinic antagonist, KarXT (xanomeline-trospium), demonstrated a statistically significant improvement in the total Positive and Negative Syndrome Scale (PANSS) score, the most widely used measure of symptom severity in schizophrenia. These results were then confirmed by subsequent Phase 3 trials with statistically significant changes in PANSS score seen in both Emergent-2 and Emergent-3 trials. These results were further supported by a positive Phase 1b randomized, double-blind, placebo-controlled clinical trial conducted by Cerevel Therapeutics, Inc. of emraclidine (CVL-231), a M4 receptor positive allosteric modulator demonstrating robust improvements in PANSS scores. These clinical data in schizophrenia patients are further supported by a robust body of preclinical and clinical evidence that shows that the muscarinic acetylcholine receptor system plays an important role in regulating behaviors related to psychoses, cognition, movement, learning and memory, suggesting its importance as a potential drug target for the treatment of several brain disorders. These studies also suggest compounds that elevate M4 receptor activity have the potential to treat other neuropsychiatric disorders, in addition to schizophrenia.

Indication Overview

Schizophrenia is a debilitating neuropsychiatric disorder characterized by positive symptoms (such as delusions and hallucinations), negative symptoms (such as diminished emotional expression) and cognitive symptoms (such as deficits in types of memory). The disease is also associated with a 10-to-25-year reduction in life expectancy overall. It is estimated that approximately three million people in the United States have schizophrenia.

No therapies with a novel mechanism of action have been recently approved for schizophrenia, with all currently approved antipsychotics based on mechanisms originally based on chlorpromazine, which was developed in the 1950s. Currently approved therapies focus on treating the positive symptoms of schizophrenia and have little impact on the negative or cognitive symptoms. They also have potentially serious side effects, including movement and metabolic effects, which historically have resulted in poor compliance.

Preclinical Data

We have identified multiple series of M4R-positive allosteric modulators that are designed to be potent, selective and orally bioavailable. The lead molecule has demonstrated robust activity in preclinical efficacy models, as well as high selectivity for the M4R subtype, the potential for an improved safety profile over current antipsychotics and non-selective agonist approaches, and an oral once-daily dosing profile. Based on preclinical data we have generated, we believe that the profile of NMRA-266 is comparable to the profile of other M4 PAMs. For example, the potency (M_4 EC_{50} (cAMP)) of NMRA-266 was demonstrated to be 32nM and the brain:plasma ratio for NMRA-266 was demonstrated to be 1:1. In addition, the selectivity at other muscarinic receptor subtypes (EC_{50}) for NMRA-266 was demonstrated to be $M_{1,3,5} > 10$ µM, M_2 6.8 µM.

Development Plan

Our M4R program has molecules in preclinical development ranging from pre-candidate selection to completion of IND-enabling studies. NMRA-266 is in preclinical development and we anticipate submitting an IND to the FDA in the fourth quarter of 2023.

NMRA-NMDA

NMRA-NMDA is an NMDA positive allosteric modulator program that we intend to develop for the treatment of schizophrenia. Recent breakthroughs in third-party psychiatric genetic studies have provided genetic evidence in support of the role of NMDA in schizophrenia. Furthermore, human studies suggest NMDA receptor antagonists, such as ketamine, lead to a schizophrenia-like syndrome, which provides compelling evidence for this target. Our NMRA-NMDA program is in the preclinical phase of development.

Target Rationale

NMRA-NMDA is an investigational allosteric modulator of GRIN2A/GluN2A-containing NMDA glutamate receptors. Glutamate is the major excitatory neurotransmitter in the brain, and dysregulation of glutamate levels NMDA receptor function and downstream pathways has long been hypothesized to be key molecular drivers of schizophrenia. Recently large studies of schizophrenia patients which have looked to identify the genetic basis of schizophrenia have identified the GRIN2A gene, which produces the GluN2A subunit of the NMDA receptor, as a critical genetic risk factor for the disease. Human pharmacology experiments have indicated that decreases in NMDA receptor activity can lead to schizophrenia-like symptoms in healthy volunteers. These studies together suggest compounds which elevate NMDA receptor activity have the potential to treat the disease.

Indication Overview

Similar to NMRA-266, we are planning to evaluate NMRA-NMDA in patients with schizophrenia.

Preclinical Data

We have identified a series of investigational NMDA positive allosteric modulators that are potent and orally bioavailable. Our NMRA-NMDA program was internally discovered and we have focused on proprietary chemistry that targets a distinct binding site on the target compared to other approaches. The lead molecules have been identified through experiments in cell-based assays to evaluate potency and selectivity and also characterize their mechanism of action. These molecules have also demonstrated target engagement and pharmacodynamic activity in animal models relevant for the mechanism and disease indication.

Development Plan

Our NMRA-NMDA program is in the preclinical stage of development.

NMRA-CK1d

NMRA-CK1d is a CK1d inhibitor program that we intend to develop for ALS. CK1d is a kinase that has been identified as a proximal upstream regulator of TDP-43 phosphorylation, a key driver of TDP-43-driven pathology in approximately 95% of sporadic ALS cases. There is also genetic evidence supporting the role of TDP-43 in ALS. Our NMRA-CK1d program is in preclinical development. We exclusively licensed certain intellectual property rights related to NMRA-CK1d from Amgen.

Indication Overview

ALS is a rapidly progressing neurodegenerative disease that affects motor neurons in the brain and spinal cord. As motor neurons die, the brain loses the ability to initiate and control muscle movement, and patients may lose the ability to speak, eat, move and breathe. Approximately 5,000 people in the United States are diagnosed with ALS each year, and approximately 16,000 patients live with ALS in the United States at a given time. ALS usually affects patients between the ages of 40 and 70.

Existing therapeutics have modest effects on survival and physical functioning with no effect on mortality and patients have an average life expectancy of two to five years from diagnosis, emphasizing the high unmet medical need.

Target Rationale

CK1d is a key proximal kinase phosphorylating TDP-43, a protein implicated in the pathology of both sporadic and familial ALS and certain types of frontotemporal dementia (FTD). Protein aggregates containing phosphorylated TDP-43 are present in degenerating motor neurons of ALS patients. It is hypothesized that reduction of TDP-43 phosphorylation with a CK1d inhibitor will reduce TDP-43 driven pathology and slow disease progression. Published data have demonstrated that CK1d inhibitors reverse aberrant TDP-43 related phenotypes in both *in vitro* and *in vivo* studies.

Preclinical Data

NMRA-CK1d inhibitors have nanomolar potency, are selective over a number of other kinases and exhibit cell-based activity. Compounds have properties consistent with favorable CNS penetration and we are conducting experiments in both *in vitro* cell models and *in vivo* models relevant for ALS. In addition, we are conducting experiments to analyze ALS multi-modal patient data using our proprietary toolbox of data science algorithms to determine whether there are sub-groups of ALS patients which could be more responsive to NMRA- CK1d.

We have onboarded data from the Answer ALS dataset to our Precision Toolbox, which we are analyzing as we advance our NMRA-CK1d program. The preliminary work with this dataset shows that an unsupervised drug signature independent clustering approach reveals patient clusters that are overlapping in terms of the likelihood they would respond to a CK1d compound. However, when applying supervised clustering methods that incorporate the NMRA-CK1d drug signature, enhanced precision in identifying distinct clusters that may be more responsive to a CK1d compound within the ALS population is demonstrated. We believe this work may enable the generation of hypotheses around “responder/non-responder” populations that we can consider to be included in future clinical studies.

Development Plan

Our NMRA-CK1d program is in the preclinical stage of development.

NMRA-NRLP3

NMRA-NLRP3 is an inhibitor program focused on targeting the NLRP3 inflammasome for the treatment of certain neurodegenerative conditions. The inflammasome is a critical part of the innate immune system that responds to pathogens and cellular damage and is implicated in brain disorders, such as PD, as well as immune disorders. The NLRP3 inflammasome can be activated in brain microglia, a type of cell in the brain, and other cell types by a range of proteins linked to neurodegeneration, including alpha-synuclein (a neuronal protein that regulates synaptic vesicle trafficking), which suggests the inflammasome may have a mechanistic role in PD. Our NMRA-NLRP3 program is in the preclinical phase of development.

Target Rationale

The NLRP3 inflammasome is a central component of the innate immune system and is chronically activated in neurodegenerative and inflammatory diseases. It is essential for triggering innate immunity and protecting the host from a variety of pathogens and cellular stressors. Pathological proteins associated with PD, ALS, and AD have also been shown to activate the NLRP3 inflammasome, including (i) alpha-synuclein, which is a critical driver of PD an other so-called synucleinopathies, (ii) TDP-43, which as stated above is linked to ALS, FTD and other TDP-43 opathies, (iii) beta-amyloid and tau, proteins which are most closely linked to AD. A growing body of work in PD model systems has shown that inhibition of the NLRP3 inflammasome can impact various disease phenotypes in a therapeutically relevant manner.

Indication Overview

PD is a neurodegenerative disorder resulting in progressive and debilitating motor symptoms, such as hypokinesia, or decreased body movement, and bradykinesia, or rigidity, tremor, and postural instability. PD patients lose dopamine-producing neurons in the substantia nigra, the region of the brain responsible for motor control. Approximately one million people in the United States have PD.

Current therapeutics for PD focus on increasing levels of dopamine to manage disease symptoms. For example, levodopa/l-dopa is converted into dopamine in the brain while mono-amine oxidase-B and catechol-O-methyl transferase inhibitors reduce the breakdown of dopamine. Each therapeutic class has meaningful limitations in efficacy and side-effects.

Preclinical Data

We have identified multiple series of NLRP3 inhibitors that showed potency and selectivity in a range of cellular assays in different immortalized cell lines and primary immune cells including microglia. These molecules have also demonstrated target engagement and pharmacodynamic activity in relevant animal models for the proposed mechanism.

Development Plan

Our NMRA-NLRP3 program is in the preclinical phase of development. In addition, we are conducting experiments to analyze PD multi-modal patient data using our proprietary toolbox of data science algorithms to determine whether there are sub-groups of PD patients which could be more responsive to NMRA-NLRP3.

NMRA-GCase

NMRA-GCase is an activator program focused on elevating the activity of the enzyme glucocerebrocidase (GCase) that we are developing for the treatment of PD. Mutations in the GBA1 gene, which codes for the enzyme GCase, are the single largest genetic risk factor for PD. GCase deficiencies lead to storage disorders of the lysosome, which plays an important role in maintaining cellular balance, and a group of patients with PD have lysosomal dysfunction. Our NMRA-GCase program is in the preclinical phase of development. We exclusively licensed certain intellectual property rights related to NMRA-GCase from Amgen.

Target Rationale

The enzyme GCase belongs to a family of proteins known as “lysosomal glycoside hydrolases” that are located within the lysosomal compartments of cells and cause the cleavage of complex molecules containing sugar. The GBA gene encodes GCase and homozygous or compound heterozygous mutation carriers in GBA are associated with Gaucher’s disease, a lysosomal storage disorder. Mutations in the GBA gene are associated with PD (approximately 10% of PD patients). Functional GCase is crucial for the recycling and disposal of proteins and lipids in the lysosome. Numerous scientific studies have demonstrated that GCase mutations trigger lysosomal dysfunction, cell toxicity, inflammation and the accumulation of alpha-synuclein (a hallmark of PD), which is toxic to neurons.

Indication Overview

PD is a neurodegenerative disorder resulting in progressive and debilitating motor symptoms, such as hypokinesia, or decreased body movement, and bradykinesia, or rigidity, tremor, and postural instability. PD patients lose dopamine-producing neurons in the substantia nigra, the region of the brain responsible for motor control. Approximately one million people in the United States have PD.

Preclinical Data

We have identified multiple small molecule series through a high-throughput screen as GCase activators. Our series activates both wild type and mutant forms of the enzyme with similar potency, and we have biophysical data that they bind directly to the target not acting in an indirect fashion.

Development Plan

Our NMRA-GCase program is in the preclinical stage of development.

Intellectual Property

Our success depends in large part upon our ability to obtain and maintain proprietary protection for our products and technologies and to operate without infringing the proprietary rights of others. Our policy is to protect our proprietary position by, among other methods, filing U.S. and foreign patent applications that relate to our proprietary technologies, inventions and improvements that are important to the development and implementation of our business. We also rely on trademarks, trade secrets, know-how and continuing technological innovation.

Our patent portfolio includes three primary types of patents and patent applications: (i) molecule patents that cover composition of matter and methods of treatment; (ii) patents directed to our precision neuroscience approach that covers key artificial intelligence algorithms and machine learning-based processes for identifying and monitoring targeted patient populations; and (iii) biomarker patents that cover methods of diagnosing and treating patients, with our molecules. As of June 30, 2023, we own, co-own, or have an exclusive license to over 280 patents and pending applications in the United States and foreign jurisdictions. These include 29 issued U.S. patents and 110 issued foreign patents.

The term of any individual issued patent depends upon the legal term of the patent in the country in which it is obtained. In most countries that we file, the patent term is 20 years from the earliest date of filing a nonprovisional patent application related to the issued patent. However, the actual protection afforded by an issued patent varies on a product-by-product basis, from country to country, and depends upon many factors, including the type of patent, the scope of its coverage, the availability of regulatory-related extensions, the availability of legal remedies in a particular country, and the validity and enforceability of the patent. A U.S. patent also may be accorded patent term adjustment, or PTA, under certain circumstances to compensate for delays in obtaining the patent from the USPTO. In some instances, such a PTA may result in a U.S. patent term extending beyond 20 years from the earliest date of filing a non-provisional patent application related to the U.S. patent. In addition, in the United States, the term of a U.S. patent that covers an FDA-approved drug may also be eligible for patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process.

Molecule Patent Portfolio

As of June 30, 2023, our molecule patents include over 230 owned and exclusively licensed patents and patent applications, of which 22 are issued U.S. patents and 106 are issued foreign patents. A further breakdown of our material molecule patents and applications as of June 30, 2023 is below:

- **Navacaprant (NMRA-140):** We own, co-own or exclusively license two patent families that include four issued U.S. patents, 38 issued foreign patents and additional pending U.S. and foreign patent applications related to navacaprant. These patents and applications cover composition of matter. We have an exclusive license from TSRI to one of the patent families, which includes two issued U.S. patents that are expected to expire in 2033 excluding any patent term adjustment or patent term extension. We co-own the other patent family with The Scripps Research Institute (TSRI). This family has two patents granted in the United States, and additional patents granted in Europe, Hong Kong, Australia, Mexico, Singapore, India, Israel, Japan, Eurasia and South Africa. Additional patent applications in this family are pending in China, Canada, Brazil and Korea. The last issued patent from these families licensed to us from TSRI is expected to expire in 2038 excluding any patent term adjustment or patent term extension. We anticipate that we will apply for any available patent term extension to the family with base expiration in 2038.
- **NMRA-511:** We own one issued U.S. patent and 15 additional patents and pending U.S. and foreign patent applications related to NMRA-511. These patents and applications cover composition of matter. This family has one patent granted in the United States, and additional patents granted in Singapore, Europe, Israel, and China. Additional patent applications in this family are pending in Europe, Japan,

Hong Kong, Canada, Australia, Mexico, India, Korea, New Zealand and South Africa. The issued U.S. patents and future patents that issue are expected to expire in 2038 excluding any patent term adjustment or patent term extension.

- **NMRA-266:** We exclusively license several patent families that include 15 issued U.S. patents, 59 issued foreign patents and additional pending U.S. and foreign patent applications related to our M4R program from Vanderbilt. These patents and applications cover composition of matter. The last patent expiration date for the issued patents and patents expected to issue that are exclusively licensed from Vanderbilt that cover NMRA-266 is 2041.

Precision Toolbox Patent Portfolio

Our Precision Toolbox is covered by process patents and patent applications relating to multimodal methods of identifying and monitoring targeted patient populations. The process patents and patent applications are directed to (i) the use of tools to detect and capture data from patients using specific modalities, unimodal processing and/or diagnostic techniques for specific modality types; and (ii) multimodal machine learning and AI-based processes for combining different types of data to identify and monitor targeted patient populations. Our Precision Toolbox patent portfolio includes several patent families, comprising five issued U.S. patents, four issued foreign patents and additional pending U.S. and foreign patent applications. The issued U.S. and foreign patent and future patents that issue from these families are expected to expire between 2038 and 2044, excluding any patent term adjustment.

The Precision Toolbox patent portfolio also includes coverage for multimodal processes that span various modalities including genetic, transcriptomic, proteomic, in vitro cell, MRI, EEG, voice, facial, behavioral, clinical and others. The toolbox patents include seven issued U.S. patents, and additional patents and patent applications pending in the United States, Europe, Canada, Japan and China.

Biomarker Patent Portfolio

Our Precision Toolbox is also covered by biomarker patents and applications directed to unimodal and multimodal biomarkers that identify patients that respond to specific drugs. These biomarker patents are process patents for identifying and diagnosing patients with selected biomarkers, and methods of treating patients with those biomarkers with neural drugs. We own six pending patent applications relating to biomarkers that are pending in the United States, Europe, Japan and China. Generally speaking, those selected biomarkers include genetic, proteomic, task-based, clinical assessment-based, and others.

Trade Secrets

In addition to our reliance on patent protection for our inventions, product candidates and precision neuroscience approach, we also rely on trade secrets, know-how, confidentiality agreements and continuing technological innovation to develop and maintain our competitive position. For example, some elements of manufacturing processes, proprietary assays, analytics techniques and processes, knowledge gained through clinical experience such as approaches to dosing and administration and management of patients, as well as related processes and software, are based on unpatented trade secrets and know-how that are not publicly disclosed. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual or entity during the course of the party’s relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees, the agreements provide that all inventions conceived of by the individual during the course of employment, and which relate to or are reasonably capable of being used in our current or planned business or research and development are our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary technologies by third parties.

Trademarks

We also protect our brands through the procurement of trademark rights and have a portfolio of registered and pending trademark applications in the United States and abroad. As of June 30, 2023, the portfolio includes trademark applications for the mark NEUMORA, that are pending in the United States, Europe, United Kingdom, Canada, China, Mexico, Israel, Brazil, South Korea and International Applications filed under the Madrid Protocol. Trademark applications for NEUMORA have been registered in Australia, Europe, India, Israel, Japan and the United Kingdom. Trademark applications for DATA BIOPSY have registered in Australia, Brazil, Europe, Japan, Mexico, South Korea and the United Kingdom. Trademark applications for PRECISION PHENOTYPE have registered in Brazil, Europe, Mexico and the United Kingdom.

In-Licensing and Collaboration Agreements

*Exclusive License Agreements with Amgen for CK1*d *and GCase*

In September 2021, we entered into two exclusive license agreements with Amgen (the Amgen Licenses) with one of the agreements covering development of products directed to casein kinase 1 delta (the CK1d License) and the other covering development of products directed to ß-Glucocerebrosidase (the GCase License).

Under each Amgen License, Amgen granted to us a worldwide, exclusive, sublicensable license under certain of its patents and know-how to research, develop, manufacture, use and commercialize specified products containing compounds that, with respect to the CK1d License, are directed to CK1d, including compounds developed by us prior to the effective date of the CK1d License, and with respect to the GCase License, are directed to GCase, collectively referred to as the licensed products, for any and all uses. We have filed one patent application directed to CK1d. The license grants are subject to Amgen’s right to use the licensed patents and know-how solely for internal research use. Until a specified period of time following the achievement of the first successful Phase 2 clinical trial for any licensed product, if we choose to sell, transfer, sublicense or divest rights to a licensed product in certain major markets, Amgen has a time-limited, exclusive right of first negotiation to enter into an agreement with us for such rights. Amgen also agreed to transfer to us certain licensed materials and licensed know-how relating to the licensed products.

Under each Amgen License, we are solely responsible for the research, development, manufacturing and commercialization of the licensed products. We are obligated to use commercially reasonable efforts to develop, manufacture, obtain regulatory approval, and commercialize at least one licensed product under each Amgen License. Under each Amgen License, we also agreed, until a specified period of time following the first commercial sale of the first licensed product in the United States, not to clinically develop, commercialize, or manufacture any compounds or products, other than the licensed products, that are directed to CK1d or GCase, unless we treat them as licensed products that are subject to diligence, milestone and royalty obligations under the Amgen Licenses. If we choose not to treat such compounds or products obtained through a transaction with a third party as a licensed product, then we are obligated to divest or terminate the program for such compounds or products.

Under the Amgen Licenses, we agreed to pay Amgen contingent consideration payable in cash up to an aggregate of $360.0 million in commercial milestone payments upon the achievement of certain sales thresholds per licensed product under the CK1d License and up to an aggregate $360.0 million in commercial milestone payments upon the achievement of certain sales thresholds per licensed product under the GCase License. We also agreed to pay tiered royalties at percentages ranging from the low to high-single-digits on annual worldwide net sales of licensed products under the CK1d License, and royalties at a low-single-digit percentage on annual worldwide net sales of licensed products under the GCase License, payable on a licensed product-by-licensed product and country-by-country basis until the later of the expiration of the last to expire licensed patent or Neumora patent claiming the composition of matter of such licensed product and the tenth anniversary of the first commercial sale of such licensed product in such country. Under each Amgen License, the royalty payments are subject to reductions on a country-by-country basis for lack of patent coverage, generic entry and payment obligations for third-party licenses. Additionally, under each of the Amgen Licenses, if we enter into a sublicense agreement prior to the second anniversary of the effective date of the Amgen Licenses, then we are also obligated to pay Amgen a low-double-digit percentage of sublicense income we receive for the CK1d and/or GCase programs. As of June 30, 2023, none of the milestones pursuant to the Amgen Licenses have been achieved and no amounts were recognized related to the contingent consideration milestones.

Each of the Amgen Licenses continues in force until the expiration of all royalty payment obligations to Amgen unless terminated earlier. We may terminate either Amgen License at-will with 30 days' prior written notice to Amgen at any time prior to the initiation of clinical development for any licensed product or 120 days' prior written notice to Amgen at any time thereafter. Either party may terminate either Amgen License upon written notice for the other party's material breach that remains uncured for ninety days (or for one year if an approved plan to remedy such breach is being diligently pursued) or upon the other party's bankruptcy or insolvency. Amgen may also terminate either Amgen License upon written notice if we breach our obligations to not clinically develop, commercialize or manufacture compounds or products directed to CK1d or GCase, other than licensed products, unless we treat them as licensed products or divest or terminate the program(s) for such compounds or products.

Upon termination of either of the Amgen Licenses, all rights and licenses granted by Amgen to us under that license will terminate, except that, under the CK1d License, we will retain rights to the compounds directed to CK1d that were developed by us prior to the effective date of the CK1d License. In addition, with respect to all other licensed products, at Amgen's election and in return for tiered royalties at percentages ranging from the low to mid-single-digits on annual worldwide net sales under the CK1d License, and royalties at a low-single-digit percentage on annual worldwide net sales under the GCase License, we will grant to Amgen an automatic, worldwide, perpetual, sublicensable, irrevocable and exclusive license to exploit such licensed products, under all patent rights and know-how controlled by us that cover such licensed products and are necessary to exploit any such licensed product as it exists as of the termination date.

Research Collaboration Agreement with Amgen

In September 2021, we entered into a research collaboration and license agreement with Amgen to discover drug targets, biomarkers and other insights associated with CNS diseases that are generated by Amgen's deCODE genetics and human data research capabilities. The term of the Amgen Collaboration Agreement is five years. In return for Amgen performing research and development activities under the Amgen Collaboration Agreement, we are committed to making non-refundable, non-creditable quarterly payments to Amgen over the first two years totaling $50.0 million and for the third year between $12.5 million and $25.0 million depending on whether certain progress milestones are achieved. These payments are due on a quarterly basis. We have made seven quarterly payments to Amgen in an amount of $6.3 million each as of June 30, 2023. The eighth quarterly payment of $6.3 million became due as of June 30, 2023. We will try to mutually agree on the compensation structure for the fourth and fifth years of the Amgen Collaboration Agreement. The Amgen Collaboration Agreement did not require the payment of upfront fees.

The collaboration is governed by a joint research committee comprised of an equal number of representatives from us and from Amgen. Under the Amgen Collaboration Agreement, each party will solely own the patents and know-how it solely generates in the performance of the collaboration activities and the parties will jointly own all patents and know-how they jointly generate in the performance of the collaboration activities. Amgen has granted to us an exclusive, worldwide, sublicensable, fully paid-up, royalty-free license under Amgen's rights in and to the patents and know-how generated in the performance of the collaboration activities that are controlled by Amgen, to exploit therapeutic compounds and diagnostics for use with therapeutics to treat, ameliorate or prevent diseases with effects that manifest primarily in the CNS (the collaboration defined CNS Field). We have granted to Amgen an exclusive, worldwide, sublicensable, fully paid-up, royalty-free license under our rights in and to the patents and know-how generated in the performance of the collaboration activities that are controlled by us, to exploit therapeutic compounds and diagnostics for use with therapeutics outside of the CNS Field.

We also granted to Amgen an exclusive option to negotiate, and the right of first negotiation, to obtain exclusive, worldwide licenses to research, develop, commercialize and otherwise exploit up to two therapeutic products arising from the collaboration, which is exercisable on a product-by-product basis until a specified period of time following the achievement of the first successful Phase 2 clinical trial for such product.

Either party may terminate the Amgen Collaboration Agreement upon material breach of the other party that is not cured within 90 days after written notice is given or for the other party's insolvency or bankruptcy. In addition, the Amgen Collaboration Agreement terminates automatically on the third anniversary of the effective date if the parties are unable to agree on the compensation structure for the fourth and fifth years of the agreement.

As part of the agreements, we issued to Amgen 20.0 million shares of our Series A-2 Preferred Stock. Additionally, Amgen purchased 12.7 million shares of our Series A-2 Preferred Stock at a purchase price of $7.85 per share, for total consideration of $100.0 million. Subject to certain conditions, Amgen is also obligated to provide us additional financing of up to $100.0 million. This obligation will terminate upon the completion of this offering.

2015 TSRI License Agreement

In connection with the acquisition of BlackThorn in September 2020, we gained rights to a license agreement between BlackThorn and TSRI entered into in November 2015, as amended in November 2017 and April 2019 (2015 TSRI License Agreement). Pursuant to the 2015 TSRI License Agreement, TSRI granted us a worldwide, exclusive license under certain patent rights and a worldwide, non-exclusive license under certain know-how relating to TSRI's Kappa Opioid Receptor (KOR or navacaprant), V1aR Receptor (V1aR or NMRA-511) Antagonist and oxytocin receptors (OTR) positive allosteric modulator programs (collectively, the TSRI Programs), in each case that is sublicensable under certain conditions, to use, manufacture and commercialize products (i) that are covered by the relevant licensed patents, (ii) that involve the use or incorporation of the licensed know-how or (iii) that are KOR, V1aR or OTR modulators discovered by BlackThorn within two years of the effective date of the 2015 TSRI License Agreement for the diagnostic, prophylactic and/or therapeutic treatment of humans and animals. The last patent expiration date for the patents licensed pursuant to the TSRI 2015 License Agreement is 2038, excluding any patent term adjustment or patent term extension. The licensed patent rights are subject to TSRI's right to use the licensed patents for internal research and educational purposes and to grant non-exclusive licenses to other non-profit or academic institutions to use the licensed patent rights for internal research and educational purposes.

We are subject to certain research and development milestone timeline obligations and have agreed to use commercially reasonable efforts to obtain regulatory approvals and to commercialize the licensed products.

Under the 2015 TSRI License Agreement, BlackThorn issued TSRI shares of its capital stock representing one percent of all outstanding shares of its capital stock calculated on a fully diluted basis. We paid a change of control success fee to TSRI in shares of our Series A-1 convertible preferred stock with a fair value of $0.3 million. Beyond the payment of this change in control success fee, as of June 30, 2023, no contingent consideration related to the milestones, royalty or other payments have been made to TSRI pursuant to the TSRI 2015 License Agreement.

We are obligated to pay TSRI a specified nominal annual license fee that is creditable against any royalties due for that calendar year. Upon achieving specified development and regulatory milestone events, we are obligated to pay TSRI milestone payments in the aggregate of up to $1.5 million for each TSRI Program and upon achieving specified commercial milestone events, we are obligated to pay TSRI milestone payments in the aggregate of up to $3.5 million for each occurrence. We are also obligated to pay TSRI a percentage ranging from the mid-single digits to sub-teen double digits of any sublicensing revenues we receive from a sublicensee. We also agreed to pay TSRI, on a product-by-product and country-by-country basis, royalties in the low-single digit percentages on worldwide net sales of products, which are either tiered or not tiered depending on the category of product, until the later of the expiration of the last to expire licensed patent in the world and the tenth anniversary of the first commercial sale of such licensed product in such country, subject to certain reductions for generic entry, lack of patent coverage and payment obligations for third-party licenses.

The 2015 TSRI License Agreement continues in force until the expiration of all royalty payment obligations to TSRI. We may terminate the 2015 TSRI License Agreement for any reason upon 90 days' prior written notice to TSRI. TSRI may immediately terminate the 2015 TSRI License Agreement if we fail to make a payment and do not cure within 20 days after written notice from TSRI, default on our indemnification or insurance obligations, become insolvent or bankrupt, are convicted of a felony relating to the development, manufacture, or commercialization of the licensed products, underpay by a certain percentage within any specified period of time, or default in the performance of any of our other obligations and fail to remedy the default within 60 days after written notice from TSRI. In the event we do not use commercially reasonable efforts to achieve the research and development milestones within the agreed upon time period and do not either meet the milestone or make substantial progress towards achieving the goals of the applicable research and development plan for such Program, in each case, within a specified cure period, TSRI has the right, based on the decision of an arbitrator, to either terminate the 2015 TSRI License Agreement with respect to a particular Program or terminate the 2015 TSRI License Agreement in its entirety. Upon any termination, all rights and licenses granted by TSRI to us will terminate. We also agreed to grant to TSRI, in return for royalties at a low-single-digit percentage of TSRI's net sales of licensed products, an irrevocable, exclusive, worldwide, perpetual, sublicensable license to data, information, or other materials exclusively controlled by us that directly relate to the licensed products, to research, develop, manufacture and commercialize the licensed products for the diagnostic, prophylactic and/or therapeutic treatment of humans and animals.

Vanderbilt License Agreement

Pursuant to the Vanderbilt License Agreement, we obtained an exclusive, worldwide, royalty-bearing, sublicensable (subject to certain restrictions) license under certain patent rights and a non-exclusive, worldwide, royalty-bearing, sub-licensable (subject to certain restrictions) license under certain know-how covering small molecule positive allosteric modulators (PAMs) predominantly of the muscarinic acetylcholine receptor subtype 4 (M4), to develop, manufacture and commercialize products, processes, and services covered by such patent rights or that incorporate or use such know-how, for any and all uses. We also have an exclusive option, exercisable for a specified period of time, to obtain an exclusive license to certain patent rights conceived or developed by Vanderbilt in the course of carrying out the sponsored research pursuant to a sponsored research agreement between us and Vanderbilt. The last patent expiration date for the licensed patents that are issued or expected to issue, from currently pending or provisional applications, pursuant to the Vanderbilt License Agreement is 2041, excluding any patent term adjustment or patent term extension. The licensed patent rights are subject to Vanderbilt's right to use the patent rights for research, internal non-commercial use and educational purposes.

We have agreed to use commercially reasonable efforts to develop and commercialize licensed products, and to achieve certain development milestones, the first within a specified period following the effective date and the other on or before June 2024. Failure to meet our obligations in accordance with the Vanderbilt License Agreement to achieve such milestones may constitute a material breach of contract that entitles Vanderbilt to terminate the Vanderbilt License Agreement.

Under the Vanderbilt License Agreement, we paid an upfront fee of $13.0 million. We are also obligated to pay Vanderbilt tiered royalties at mid-single-digit percentages on net sales of royalty-bearing products, which are payable on a country-by-country and product-by-product basis until the later of expiration of the last to expire valid claim covering composition of matter in the licensed patents and the tenth anniversary of the first commercial sale of such product in such country. Under the Vanderbilt License Agreement, the royalty payments are subject to reductions on a country-by-country basis for the lack of patent coverage, generic entry and payment obligations for third-party licenses. In addition, we are obligated to pay Vanderbilt a low-double- digit percentage of sublicense income we receive for sublicenses entered into before the achievement of a specified event. We also agreed to pay Vanderbilt payments of up to $42.4 million upon achievement of specified development milestone events for NMRA-266, up to $42.0 million upon achievement of specified development milestone events for products other than NMRA-266, and up to $380.0 million upon achievement of specified commercial milestone events, but in no event will our total milestone payments to Vanderbilt exceed $422.4 million. As of June 30, 2023, no milestone, royalty or other payment (other than the upfront payment described above) has become payable to Vanderbilt pursuant to the Vanderbilt License Agreement.

The Vanderbilt License Agreement will remain in force, on a country-by-country basis, until the expiration of all royalty payment obligations to Vanderbilt in such country. If we bring a patent challenge against any licensed patents, in addition to paying certain costs associated with the proceeding, Vanderbilt may convert the exclusive licenses to non-exclusive licenses or terminate the Vanderbilt License Agreement. If the licensed patents survive the patent challenge, all payments under the agreement will be increased by a specified amount. We have the right to terminate the Vanderbilt License Agreement at any time by providing Vanderbilt with 90 days' prior notice. Vanderbilt has the right to terminate the Vanderbilt License Agreement if we file for bankruptcy. The Vanderbilt License Agreement will automatically terminate if our insurance coverage lapses and is not cured within 90 days. Vanderbilt also has the right to terminate if we fail to make payments, breach our diligence obligations or breach any other material term upon 60 days prior notice.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, marketing and export and import of drug products. We, along with any third-party contractors, will be required to navigate the various preclinical, clinical and commercial approval requirements of the governing regulatory agencies of the countries in which we wish to conduct studies or seek approval of our products and product candidates. The process of obtaining regulatory approvals and the subsequent compliance with applicable federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources.

U.S. Drug Development Process

In the United States, the FDA regulates drugs under the federal Food, Drug, and Cosmetic Act (FDCA) and its implementing regulations. A new drug must be approved by the FDA through the New Drug Application (NDA) process before it may be legally marketed in the United States. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in accordance with FDA's Good Laboratory Practice (GLP) requirements and other applicable regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- approval by an independent Institutional Review Board (IRB) or ethics committee at each clinical site before each trial may be initiated;
- 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 for its intended use;
- preparation of and submission to the FDA of an NDA after completion of all pivotal trials;
- a determination by the FDA within 60 days of its receipt of an NDA to file the application for review;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with current Good Manufacturing Practice (cGMP) requirements to assure that the facilities, methods and controls are adequate to preserve the drug's

identity, strength, quality and purity, and a potential inspection of selected clinical investigation sites to assess compliance with GCPs; and

- FDA review and approval of the NDA to permit commercial marketing of the product for particular indications for use in the United States.

Once a product candidate is identified for development, it enters the preclinical development stage. The preclinical developmental stage generally involves laboratory evaluations of chemistry, formulation and stability, as well as studies to evaluate the product candidate's toxicity in animals, in an effort to support subsequent clinical testing. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations for certain studies.

Prior to beginning the first clinical trial with a product candidate in the United States, the trial sponsor must submit the results of preclinical testing, together with manufacturing information and analytical data, to the FDA as part of, an IND. An IND is a request for authorization from the FDA to administer an investigational drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol(s) for clinical studies. The IND also includes results of animal and *in vitro* studies assessing the toxicology, pharmacokinetics, pharmacology and pharmacodynamic characteristics of the product candidate, chemistry, manufacturing and controls information, and any available human data or literature to support the use of the product candidate. An IND must become effective before human clinical trials may begin. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, places the IND on clinical hold. In such case, the IND sponsor and the FDA must resolve any outstanding concerns or questions before the clinical trial can begin. Submission of an IND therefore may or may not result in FDA authorization to begin a clinical trial.

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control, in accordance with GCPs, which include the requirement that all research subjects provide their informed consent in writing for their participation in any clinical trial. Clinical trials must be conducted under protocols detailing, among other things, the objectives of the trial, dosing procedures, subject selection and exclusion criteria and the safety and effectiveness criteria to be evaluated. Each protocol must be submitted to the FDA as part of the IND, and a separate submission to the existing IND must be made for each successive clinical trial conducted during product development and for any subsequent protocol amendments. While the IND is active, progress reports summarizing the results of the clinical trials and nonclinical studies performed since the last progress report, among other information, must be submitted at least annually to the FDA, and written IND safety reports must be submitted to the FDA and investigators for serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the same or similar drugs, findings from animal or in vitro testing suggesting a significant risk to humans, and any clinically important increased incidence of a serious suspected adverse reaction compared to that listed in the protocol or investigator brochure.

Furthermore, an independent IRB at each institution participating in the clinical trial must review and approve review and approve each protocol before a clinical trial commences at that institution and must also approve the information regarding the trial and the consent form that must be provided to each trial subject or his or her legal representative, monitor the study until completed and otherwise comply with IRB regulations. Regulatory authorities, the IRB or the sponsor may suspend a clinical trial at any time on various grounds, including a finding that the subjects are being exposed to an unacceptable health risk or that the trial is unlikely to meet its stated objectives. In addition, some studies also include oversight by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. Depending on its charter, this group may determine whether a trial may move forward at designated check points based on access to certain data from the trial. There are also requirements governing the reporting of ongoing clinical studies and clinical trial results to public registries, including clinicaltrials.gov.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- Phase 1: The product candidate is initially introduced into healthy human subjects or patients with the target disease or condition. These studies are designed to test the safety, dosage tolerance, absorption, metabolism, excretion, and distribution of the investigational product in humans, the side effects associated with increasing doses, and, if possible, to gain early evidence on its effectiveness.
- Phase 2: The product candidate is administered to a limited patient population with a specified disease or condition identify possible adverse side effects and safety risks, to preliminarily evaluate the efficacy of the product candidate for specific targeted diseases and to determine dosage tolerance and appropriate dosage.
- Phase 3: The product candidate is administered to an expanded patient population to further evaluate dosage, to provide substantial evidence of efficacy and to further test for safety, generally at multiple geographically dispersed clinical trial sites. These clinical trials are intended to establish the overall risk-benefit ratio of the product candidate and provide an adequate basis for product labeling.

In some cases, the FDA may require, or sponsors may voluntarily pursue, additional clinical trials after a product is approved to gain more information about the product. These clinical trials, sometimes referred to as Phase 4, studies may be conducted after initial marketing approval, and may be used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of an NDA.

During the development of a new drug, sponsors are given opportunities to meet with the FDA at certain points. These points may be prior to submission of an IND, at the end of Phase 2, and before an NDA is submitted. Meetings at other times may be requested. These meetings can provide an opportunity for the sponsor to share information about the data gathered to date, for the FDA to provide advice, and for the sponsor and the FDA to reach alignment on the next phase of development.

Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the product candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final drug. In addition, appropriate packaging must be selected and tested, and stability studies must be conducted to demonstrate that the product candidate does not undergo unacceptable deterioration over its shelf life.

U.S. Review and Approval Process

The results of product development, preclinical and other non-clinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling and other relevant information are submitted to the FDA as part of an NDA requesting approval to market the product. The submission of an NDA is subject to the payment of substantial user fees, unless a waiver or exemption applies.

The FDA conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are sufficiently complete to permit substantive review The FDA may request additional information rather than accept an NDA for filing. In this event, the NDA must be resubmitted with the additional information. The resubmitted application also is subject to review before the FDA accepts it for filing. Once filed, reviews an NDA to determine, among other things, whether a product is safe and effective for its intended use and whether its manufacturing is cGMP-compliant to assure and preserve the product’s identity, strength, quality and purity. Under the Prescription Drug User Fee Act (PDUFA) guidelines that are currently in effect, the FDA has a goal of ten months from the filing date to complete a standard review of an NDA for a drug that is a new molecular entity. This review typically takes twelve months from the date the NDA is submitted to FDA because the FDA has approximately two months to make a “filing” decision after it the application is submitted.

The FDA may refer an application for a novel drug to an advisory committee. 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.

Before approving an NDA, the FDA will typically inspect the facility or facilities where the product is manufactured. Additionally, before approving an NDA, the FDA may inspect one or more clinical trial sites to assure compliance with GCPs.

After the FDA evaluates an NDA and conducts inspections of manufacturing facilities where the investigational product and/or its drug substance will be produced, the FDA may issue an approval letter or a Complete Response Letter (CRL). An approval letter authorizes commercial marketing of the drug with prescribing information for specific indications. A CRL indicates that the review cycle of the application is complete, and the application will not be approved in its present form. A CRL usually describes the specific deficiencies in the NDA identified by the FDA and may require additional clinical data, such as an additional clinical trial or other significant and time-consuming requirements related to clinical trials, nonclinical studies or manufacturing. If a CRL is issued, the sponsor must resubmit the NDA or, addressing all of the deficiencies that the FDA has identified in the letter, or withdraw the application. Even if such data and information are submitted, the FDA may decide that the NDA does not satisfy the criteria for approval.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. In addition, the FDA may require a sponsor to conduct Phase 4 testing, which involves clinical trials designed to further assess a drug’s safety and effectiveness after NDA approval, and may require testing and surveillance programs to monitor the safety of approved products which have been commercialized. The FDA may also place other conditions on approval including the requirement for a risk evaluation and mitigation strategy (REMS), to assure the safe use of the drug. If the FDA concludes a REMS is needed, the sponsor of the NDA must submit a proposed REMS. The FDA will not approve the NDA without an approved REMS, if required. A REMS could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products.

In addition, the Pediatric Research Equity Act (PREA) requires a sponsor to conduct pediatric clinical trials for most drugs, for a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration. Under PREA, original NDAs and supplements must contain a pediatric assessment unless the sponsor has received a deferral or waiver. The required assessment must evaluate the safety and effectiveness of the product for the claimed indications in all relevant pediatric subpopulations and support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The sponsor or FDA may request a deferral of pediatric clinical trials for some or all of the pediatric subpopulations. A deferral may be granted for several reasons, including a finding that the drug is ready for approval for use in adults before pediatric clinical trials are complete or that additional safety or effectiveness data needs to be collected before the pediatric clinical trials begin. The FDA must send a non-compliance letter to any sponsor that fails to submit the required assessment, keep a deferral current or fails to submit a request for approval of a pediatric formulation.

Expedited Development and Review Programs

The FDA offers a number of programs intended to expedite the development or review of a marketing application for a drug product. For example, the Fast Track program is intended to expedite or facilitate the process for developing and reviewing product candidates that are intended to treat a serious or life-threatening disease or condition and demonstrate the potential to address unmet medical needs for the disease or condition. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a Fast Track product candidate has opportunities for more frequent interactions with the applicable FDA review team during development and, once an NDA is submitted, the product candidate may be eligible for priority review. An NDA for a Fast Track product candidate may also be eligible for rolling review, where the FDA may consider for review sections of the NDA on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the NDA, the FDA agrees to accept sections of the NDA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the NDA.

A product candidate intended to treat a serious or life-threatening disease or condition may also be eligible for Breakthrough Therapy designation to expedite its development and review. A product candidate can receive Breakthrough Therapy designation if preliminary clinical evidence indicates that the product candidate, alone or in combination with one or more other drugs, may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The designation includes all of the Fast Track program features, as well as more intensive FDA interaction and guidance beginning as early as Phase 1 and an organizational commitment to expedite the development and review of the product candidate, including involvement of senior managers.

Any marketing application for a drug submitted to the FDA for approval, including a product candidate with a Fast Track designation and/or Breakthrough Therapy designation, may be eligible for other types of FDA programs intended to expedite the development and review processes, such as priority review and accelerated approval. An NDA is eligible for priority review if the product candidate is designed to treat a serious condition, and if approved, would provide a significant improvement in safety or effectiveness compared to available alternatives for such disease or condition. For new-molecular-entity NDAs, priority review designation means the FDA’s goal is to take action on the marketing application within six months of the 60-day filing date, as compared to ten months for review of new-molecular-entity NDAs under its current PDUFA review goals.

Additionally, product candidates studied for their safety and effectiveness in treating serious or life-threatening diseases or conditions may be eligible for accelerated approval upon a determination that the product candidate has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefits, taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. As a condition of continued approval, the FDA will generally require the sponsor to perform adequate and well-controlled confirmatory clinical studies to verify and describe the anticipated effect on irreversible morbidity or mortality or other clinical benefits, and may require that such confirmatory trials be underway prior to granting accelerated approval. Products receiving accelerated approval may be subject to expedited withdrawal procedures if the sponsor fails to conduct the required confirmatory studies in a timely manner or if such studies fail to verify the predicted clinical benefit. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product.

Fast Track designation, Breakthrough Therapy designation, priority review, and accelerated approval do not change the standards for approval, but may expedite the development or approval process. Even if a product candidate qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

Orphan Drug Designation and Exclusivity

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug intended to treat a rare disease or condition, defined as a disease or condition with a patient population of fewer than 200,000 individuals in the United States, or a patient population greater than 200,000 individuals in the United States and when there is no reasonable expectation that the cost of developing and making available the drug in the United States will be recovered from sales in the United States for that drug. Orphan drug designation must be requested before submitting an NDA. After the FDA grants orphan drug designation, the generic identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan drug designation subsequently receives the first FDA approval for a particular active ingredient for the disease or condition for which it has such designation, the product is entitled to orphan product exclusivity, which means that the FDA may not approve any other applications, including a full NDA, to market the same drug for the same disease or condition for seven years, except in limited circumstances, such as a showing of clinical superiority to the product with orphan drug exclusivity or if the FDA finds that the holder of the orphan drug exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. Orphan drug exclusivity does not prevent the FDA from approving a different drug for the same disease or condition, or the same drug for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research and a waiver of the NDA application user fee.

A designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the disease or condition for which it received orphan designation. In addition, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or, as noted above, if a second applicant demonstrates that its product is clinically superior to the approved product with orphan exclusivity or the manufacturer of the approved product is unable to assure sufficient quantities of the product to meet the needs of patients with the rare disease or condition.

Post-approval Requirements

Any products manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to record-keeping, reporting of adverse experiences, periodic reporting, product sampling and distribution, and advertising and promotion of the product. After approval, most changes to the approved product, such as adding new indications, certain manufacturing changes and additional labeling claims, are subject to further FDA review and approval. There also are continuing, annual program fees for any marketed products. Drug manufacturers and their subcontractors are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMPs and other laws and regulations. Changes to the manufacturing process are strictly regulated, and, depending on the significance of the change, may require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting requirements. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain compliance with cGMP and other aspects of regulatory compliance.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of requirements for post-market studies or clinical studies 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 the product, complete withdrawal of the product from the market or product recalls;
- fines, warning letters, or untitled letters;
- clinical holds on clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications, or suspension or revocation of product approvals;
- product seizure or detention, or refusal to permit the import or export of products;
- consent decrees, corporate integrity agreements, debarment or exclusion from federal healthcare programs;
- mandated modification of promotional materials and labeling and the issuance of corrective information;
- the issuance of safety alerts, Dear Healthcare Provider letters, press releases and other communications containing warnings or other safety information about the product; or
- injunctions or the imposition of civil or criminal penalties.

The FDA closely regulates the marketing, labeling, advertising and promotion of drug products. A company can make only those claims relating to safety and efficacy that are approved by the FDA and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses. Failure to comply with these requirements can result in, among other things, adverse publicity, warning letters, corrective advertising and potential civil and criminal penalties. Physicians may prescribe, in their independent professional medical judgment, legally available products for uses that are not described in the product’s labeling and that differ from those tested and approved by the FDA. Physicians may believe that such off-label uses are the best treatment for many patients in varied circumstances. The FDA does not regulate the behavior of physicians in their choice of treatments. The FDA does, however, restrict manufacturer’s communications on the subject of off-label use of their products. However, companies may share truthful and not misleading information that is otherwise consistent with a product’s FDA-approved labeling.

Marketing Exclusivity

Market exclusivity provisions under the FDCA can delay the submission or the approval of certain marketing applications. The FDCA provides a five-year period of non-patent data exclusivity within the United States to the first applicant to obtain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not approve or even accept for review an abbreviated new drug application (ANDA) or an NDA submitted under Section 505(b)(2) (505(b)(2) NDA) submitted by another company for another drug based on the same active moiety, regardless of whether the drug is intended for the same indication as the original innovative drug or for another indication, where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement to one of the patents listed with the FDA by the innovator NDA holder.

The FDCA alternatively provides three years of marketing exclusivity for an NDA, or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the modification for which the drug received approval on the basis of the new clinical investigations and does not prohibit the FDA from approving ANDAs or 505(b)(2) NDAs for drugs containing the active agent for the original indication or condition of use. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

Pediatric exclusivity is another type of marketing exclusivity available in the United States. Pediatric exclusivity provides for an additional six months of marketing exclusivity attached to another period of exclusivity if a sponsor conducts clinical trials in children in response to a written request from the FDA. The issuance of a written request does not require the sponsor to undertake the described clinical trials.

Other U.S. Regulatory Requirements

In addition to FDA regulation of pharmaceutical products, pharmaceutical companies are also subject to additional healthcare regulation and enforcement by the federal government and by authorities in the states and foreign jurisdictions in which they conduct their business and may constrain the financial arrangements and relationships through which we research, as well as sell, market and distribute any products for which we obtain marketing authorization. Such laws include, without limitation, state and federal anti-kickback, fraud and abuse, false claims, and transparency laws and regulations related to drug pricing and payments and other transfers of value made to physicians and other healthcare providers. If their operations are found to be in violation of any of such laws or any other governmental regulations that apply, they may be subject to 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 imprisonment.

Coverage and Reimbursement

Sales of any product depend, in part, on the extent to which such product will be covered by third-party payors, such as federal, state and foreign government healthcare programs, commercial insurance and managed healthcare organizations, and the level of reimbursement for such product by third-party payors. Decisions regarding the extent of coverage and amount of reimbursement to be provided are made on a plan-by-plan basis. These third-party payors are increasingly reducing reimbursements for medical products, drugs and services. In addition, the U.S. government, state legislatures and foreign governments have continued implementing cost- containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit sales of any product.

Decreases in third-party reimbursement for any product or a decision by a third-party payor not to cover a product could reduce physician usage and patient demand for the product and also have a material adverse effect on sales.

Healthcare Reform

In the United States, there have been, and continue to be, 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 the profitable sale of product candidates, and similar healthcare laws and regulations exist in the EU and other jurisdictions. Among policy makers and payors in the

United States, 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.

By way of example, in March 2010, the Patient Protection and Affordable Care Act (the ACA) was passed, which substantially changed the way healthcare is financed by both governmental and private insurers, and significantly affected the pharmaceutical industry. 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; imposed a non-deductible annual fee on pharmaceutical manufacturers or importers who sell certain “branded prescription drugs” to specified federal government programs; implemented a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for certain drugs that are inhaled, infused, instilled, implanted, or injected; expanded eligibility criteria for Medicaid programs; created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and established a Center for Medicare and Medicaid Innovation at the CMS to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial, executive and political challenges to certain aspects of the ACA. On June 17, 2021, the U.S. Supreme Court dismissed the most recent judicial challenge to the ACA brought by several states without specifically ruling on the constitutionality of the ACA. Prior to the Supreme Court’s decision, President Biden issued an Executive Order to initiate a special enrollment period from February 15, 2021, through August 15, 2021, for purposes of obtaining health insurance coverage through the ACA marketplace. The Executive Order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. On August 16, 2022, President Biden signed the Inflation Reduction Act of 2022 (the IRA) into law, which, among other things, extends enhanced subsidies for individuals purchasing health insurance coverage in ACA marketplaces through plan year 2025. It is unclear how other healthcare reform measures, if any, will impact our business.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. For example, on March 11, 2021, President Biden signed the American Rescue Plan Act of 2021 into law, which eliminates the statutory Medicaid drug rebate cap, currently set at 100% of a drug’s average manufacturer price, beginning January 1, 2024. Further, in August 2011, the Budget Control Act of 2011, among other things, included aggregate reductions to Medicare payments to providers, which went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect until 2032, with the exception of a temporary suspension from May 1, 2020 through March 31, 2022, unless additional Congressional action is taken. On January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Moreover, heightened governmental scrutiny is likely to continue over the manner in which manufacturers set prices for their marketed products, which already has resulted in several Congressional inquiries and proposed and enacted federal and state 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. Most recently, the IRA marks the most significant action by Congress with respect to the pharmaceutical industry since the adoption of the ACA in 2010. Among other things, the IRA requires manufacturers of certain drugs to engage in price negotiations with Medicare (beginning in 2026), imposes rebates under Medicare Part B and Medicare Part D to penalize price increases that outpace inflation (first due in 2023), and replaces the Part D coverage gap discount program with a new discounting program (beginning in 2025). Manufacturers that fail to comply with the IRA may be subject to various penalties, including civil monetary penalties. The IRA permits the Secretary of the Department of Health and Human Services (HHS) to implement many of these provisions through guidance, as opposed to regulation, for the initial years. For that and other reasons, it is currently unclear how the IRA will be effectuated, and while the impact of the IRA on the pharmaceutical industry cannot yet be fully determined, it is likely to be significant.

Individual states in the United States have also become increasingly active in implementing regulations designed to control pharmaceutical 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 healthcare authorities and individual hospitals are increasingly using bidding procedures to determine which drugs and suppliers will be included in their healthcare programs Furthermore, there has been increased interest by third-party payors and governmental authorities in reference pricing systems and publication of discounts and list prices.

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, which could result in reduced demand for our products once approved or additional pricing pressures. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our product candidates.

Data Privacy and Security

Numerous state, federal and foreign laws, regulations and standards govern the collection, use, access to, confidentiality and security of health-related and other personal information, including clinical trial data, and could apply now or in the future to our operations or the operations of our partners. In the United States, numerous federal and state laws and regulations, including data breach notification laws, health information privacy and security laws and consumer protection laws and regulations govern the collection, use, disclosure and protection of health-related and other personal information. Further, to the extent we collect personal data from individuals outside of the United States, through clinical trials or otherwise, we could be subject to foreign laws, such as the GDPR, which govern the privacy and security of personal data, including health-related data. Our use of AI/ML may also be subject to evolving laws and regulations, controlling for data bias and anti-discrimination. Privacy and security laws, regulations and other obligations are constantly evolving, may conflict with each other to complicate compliance efforts, and can result in investigations, proceedings, or actions that lead to significant civil and/or criminal penalties and restrictions on data processing.

Research and Development

Total research and development expenses were $55.8 million and $91.7 million for the years ended December 31, 2021 and 2022, respectively and $45.7 million and $62.3 million for the six months ended June 30, 2022 and 2023, respectively.

Commercialization

We intend to retain significant development and commercial rights to our product candidates and, if marketing approval is obtained, we may commercialize our product candidates on our own, or potentially with a partner, in the United States and other geographies. We currently have no sales, marketing or commercial product distribution capabilities. We may build the necessary infrastructure and capabilities over time for the United States, and potentially other regions, though like all things we do, we would seek to leverage technology to build these capabilities over time to be significantly more efficient than the industry average. Decisions to create this infrastructure and capability will be made following further advancement of our product candidates and based on our assessment of our ability to build said capabilities and infrastructure with competitive advantage. Clinical data, the size of the addressable patient population, the size of the commercial infrastructure, manufacturing needs and major trends as to how value is accrued in the industry may all influence or alter our commercialization plans.

Manufacturing

We do not own or operate any manufacturing facilities. We currently depend on and expect to continue to depend on third-party CMOs for all of our requirements of raw materials, drug substance and drug product for our preclinical research and clinical trials of our product candidates. Certain of these CMOs, including the drug substance supplier for our navacaprant (Almac) and the drug product suppliers for our navacaprant (Almac) and NMRA-511 (Aptuit) programs, are single-source suppliers. None of these single-source suppliers have the ability to terminate these agreements for convenience and there are no minimum purchase commitments. If not extended by us and the counter parties thereto, these supplier agreements terminate in the following years: Almac in October 2023, Aptuit in May 2023 and Piramal in August 2026. We intend to continue to rely on CMOs for later-stage development and commercialization of our product candidates, including any additional product candidates that we may identify. Although we rely on CMOs, we have personnel and third-party consultants with extensive manufacturing experience to oversee the relationships with our contract manufacturers.

Competition

Neumora is a clinical-stage biopharmaceutical company founded to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed. Our efforts to date have resulted in a pipeline of seven clinical and preclinical precision neuroscience programs targeting a broad range of underserved neuropsychiatric disorders and neurodegenerative diseases. The foundation of our approach is an integration between our portfolio of therapeutic candidates with novel mechanisms of action and our precision neuroscience approach, supported by our Precision Toolbox of translational neuroscience tools, methods, and data science capabilities. As such, we compete with multiple biopharmaceutical and biotechnology companies that are similarly working to develop therapeutics targeting neuropsychiatric disorders and neurodegenerative diseases. While we believe we have the competitive advantages referred to above, we face competition from major biopharmaceutical and biotechnology companies, academic institutions, governmental agencies, consortiums and public and private research institutions, among others, many of whom have significantly greater resources than us. Notable competitors include traditional biopharmaceutical and biotechnology companies targeting brain diseases such as Cerevel Therapeutics, Sage Therapeutics, Karuna Therapeutics, Prothena, ACADIA Pharmaceuticals, Axsome Therapeutics, Neurocrine Biosciences and Intra-Cellular Therapies.

These competitors have a number of product candidates in development, such as KarXT (xanomeline-trospium), an M1/M4-preferring muscarinic agonist combined with a peripheral muscarinic antagonist, being developed by Karuna Therapeutics, and emraclidine (CVL-231), a M4 receptor positive allosteric modulator, being developed by Cerevel Therapeutics. KarXT's potentency was demonstrated to be 52nM and the brain:plasma ratio for KarXT was demonstrated to be 1:10. The human half-life for KarXT was demonstrated to be 4 to 5 hours. In addition, the selectivity at other muscarinic receptor subtypes (EC50) for KarXT was demonstrated to be M1 0.3 nM, M2 92.5 and M3 5nM. The bioavailability of KarXT was demonstrated to be <1% due to extensive first pass metabolism and the molecular weight was demonstrated to be 281.4 (xanomeline). Emraclidine's potency was demonstrated to be 12 nM and the brain:plasma ratio for emraclidine was demonstrated to be 1:1. The human half-life for emraclidine was demonstrated to be 9 to 12 hours. In addition, the selectivity at other muscarinic receptor subtypes (EC50) for emraclidine was demonstrated to be M1 > 10 µM, and M2 5.8 µM. The bioavailability of emraclidine is unknown and the molecular weight was demonstrated to be 390.4.

Facilities

Our corporate headquarters are located in Watertown, Massachusetts, where we sublease approximately 30,000 square feet of office and laboratory space pursuant to a sublease agreement which was executed in May 2022 and expires in June 2025.

In March 2021, we entered into a new lease agreement for an office facility in South San Francisco, California. The term of the lease commenced in April 2021 and ends in December 2023.

We believe that our existing facilities are sufficient for our near-term needs but expect to need additional space as we grow. We believe that suitable additional alternative spaces will be available in the future on commercially reasonable terms, if required.

Employees and Human Capital Resources

As of June 30, 2023, we had 110 full-time employees, 70 of whom were primarily engaged in research and development activities. A total of 74 employees held an advanced degree. None of our employees are represented by a labor union or party to a collective bargaining agreement. 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 additional employees. The principal purposes of our equity incentive plans are to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards and cash-based performance bonus awards.

Legal Proceedings

We are not currently a party to any material legal proceedings. From time to time, we may, however, in the ordinary course of business face various claims brought by third parties, and we may, from time to time, make claims or take legal actions to assert our rights, including intellectual property rights as well as claims relating to employment matters and the safety or efficacy of our products. Any of these claims could subject us to costly litigation, and, while we generally believe that we have adequate insurance to cover many different types of liabilities, our insurance carriers may deny coverage, may be inadequately capitalized to pay on valid claims, or our policy limits may be inadequate to fully satisfy any damage awards or settlements. If this were to happen, the payment of any such awards could have a material adverse effect on our operations, cash flows and financial position. Additionally, any such claims, whether or not successful, could damage our reputation and business.

MANAGEMENT

Executive Officers, Key Employees and Directors

The following table sets forth information regarding our executive officers, key employees and directors as of September 8, 2023:

Executive Officers and Employee Directors	Age	Position
Henry O. Gosebruch	50	President, Chief Executive Officer and Director
Paul L. Berns	56	Executive Chairman
Daljit (Bill) Singh Aurora, Pharm.D.	56	Chief Strategy Officer
Robert Lenz, M.D., Ph.D.	53	Head of Research and Development
Joshua Pinto, Ph.D.	39	Chief Financial Officer
Carol Suh	34	Chief Operating Officer
Key Employees		
Nicholas (Nick) Brandon, Ph.D.	49	Chief Scientific Officer
Maryjo Chamberlain-Tharp, Ph.D.	47	Chief Business Officer
Michael Gold, M.D.	63	Chief Medical Officer
Lori Houle	56	Chief Quality Officer
Raj Manchanda, Ph.D.	57	Chief Technical Operations Officer
Non-Employee Directors		
Kristina Burow(1)(2)(3)	49	Director
Matthew Fust(1)(2)	59	Director
Alaa Halawa(2)(3)	41	Director
Maykin Ho, Ph.D.(1)(3)	70	Director
David Piacquad	67	Director

(1) Member of the audit committee.
(2) Member of the compensation committee.
(3) Member of the nominating and corporate governance committee.

Executive Officers and Employee Directors

Henry O. Gosebruch has served as our President, Chief Executive Officer and a member of our board of directors since July 2023. Mr. Gosebruch has also served as a Venture Partner at ARCH Venture Partners, a venture capital firm focused on early stage-technology companies, since June 2023. From December 2015 to February 2023, Mr. Gosebruch served as Executive Vice President and Chief Strategy Officer at AbbVie, a public pharmaceutical company, where he was responsible for AbbVie’s corporate strategy, business development, acquisitions, search and evaluation, alliance management, portfolio analytics and strategic venture capital investments. Prior to that, Mr. Gosebruch worked at the North American M&A Group of J.P. Morgan, a public financial services company, from July 1995 to December 2015, most recently serving as its co-head. Mr. Gosebruch has served on the board of directors of Acelyrin, a public biopharmaceutical company, since March 2023 and Aptinyx, a former public biopharmaceutical company, since May 2019. Mr. Gosebruch holds a B.S.E. in Finance from the Wharton School at the University of Pennsylvania, where he currently serves on the advisory board of the Life Sciences & Management Program, and is a certified public accountant in Illinois. We believe Mr. Gosebruch is qualified to serve on our board of directors because of his extensive experience in the biopharmaceutical sector, mergers and acquisitions, business development and corporate strategy and long-range planning.

Paul L. Berns is one of our co-founders and has served as our Executive Chairman since July 2023 and has served on our board of directors since January 2020. From November 2019 to July 2023, Mr. Berns served as our Chief Executive Officer and President and from January 2020 to July 2023, he served as the Chairman of our board of directors. Mr. Berns has been a member of ARCH Venture Partners, a venture capital firm focused on early-stage technology companies, since August 2018 and became a Managing Director in 2021. Mr. Berns was a consultant to the biopharmaceutical industry from July 2016 to August 2018, as well as from 2012 to 2014 and from 2005 to 2006. From 2014 to 2016, Mr. Berns served as President, Chief Executive Officer and Chairman of the board of directors at Anacor Pharmaceuticals, a public biopharmaceutical company, which was acquired by Pfizer in 2016. Previously, Mr. Berns served as President and Chief Executive Officer of Allos Therapeutics, a public biopharmaceutical company, from 2006 to 2012, when it was acquired by Spectrum Pharmaceuticals. Mr. Berns was President and Chief Executive Officer of Bone Care International, a private specialty pharmaceutical company, from 2002 to 2005, when it was acquired by Genzyme Corporation. Prior to that, Mr. Berns was Vice President and General Manager of the Immunology, Oncology and Pain Therapeutics business unit of Abbott Laboratories, a public medical devices and health care company, from 2001 to 2002, and from 2000 to 2001, he served as Vice President, Marketing of BASF Pharmaceuticals/Knoll, a public pharmaceutical company, when it was acquired by Abbott Laboratories in 2001. Earlier in his career, Mr. Berns held various positions, including senior management roles, at Bristol Myers Squibb (BMS), a public biopharmaceutical company, from 1990 to 2000. Mr. Berns has served as a board member of two public biotechnology companies, UNITY Biotechnology since March 2018 and EQRx since January 2020, respectively. Mr. Berns has also served as a board member of two private biotechnology companies, Epirium Bio and HI-Bio since July 2019 and August 2021, respectively. Mr. Berns has served as the chairman of the board of directors of the private technology company Happy AI since July 2019. Mr. Berns previously served on the boards of various public biopharmaceutical companies including Jazz Pharmaceuticals (from 2010 to July 2021), VYNE Therapeutics (f/k/a Menlo Therapeutics) (from November 2017 to March 2020), Anacor Pharmaceuticals (from 2012 to 2016) and various private pharmaceutical companies including MC2 Therapeutics (from May 2017 to January 2020), XenoPort (from 2005 to 2016) and Bone Care International (from 2002 to 2005). Mr. Berns holds a B.S. in Economics from the University of Wisconsin. We believe Mr. Berns is qualified to serve on our board of directors because of his extensive management and leadership experience with biopharmaceutical and life sciences companies.

Bill Aurora, Pharm.D., has served as our Chief Strategy Officer since January 2023, and from August 2021 through December 2022 served as our Chief Corporate Affairs Officer. From July 2016 to June 2021, Dr. Aurora was at Dermira, a public biopharmaceutical company, which was acquired by Eli Lilly in 2020, where he served as Senior Vice President, Medical Affairs and Compliance from 2016 to November 2019 and as Chief Scientific Affairs Officer from November 2019 to June 2021. Previously, he held vice president roles in medical affairs at Neurocrine Biosciences, a public biopharmaceutical company, from 2015 to 2016 as well as global scientific affairs at Merck Research Laboratories, a public pharmaceutical company, from 2014 to 2015 and various roles at Amgen, a public biopharmaceutical company, from 2002 to 2014, most recently serving as Vice President, Global Scientific Affairs, Global Development from 2007 to 2014 and Vice President, Worldwide Compliance and Business Ethics from 2013 to 2014. Dr. Aurora holds a B.S. in Pharmacy from the University of Texas at Austin and a Pharm.D. from the University of Texas Health Science Center, San Antonio, and obtained board certification in psychiatric pharmacy practice.

Robert Lenz, M.D., Ph.D., has served as our Head of Research & Development since September 2023. From November 2012 to September 2023, Dr. Lenz was at Amgen, a public biopharmaceutical company, where he most recently served as Senior Vice President, Global Development from May 2020 to September 2023 and as Vice President, head of Center for Design and Analysis, Inflammation, Neurology and Nephrology Development Franchise Head from November 2018 to May 2020. Previously, Dr. Lenz held roles within clinical development at Abbott Laboratories from June 2004 to November 2012, most recently serving as Divisional Vice President, Neuroscience, Anesthesia, Psychiatry Development from January 2011 to November 2012. Dr. Lenz holds an M.D. and a Ph.D. from the University of Maryland, with a research focus in Neuropharmacology. He completed his residency in Neurology at the University of California, Los Angeles.

Joshua Pinto, Ph.D., has served as our Chief Financial Officer since June 2021. Prior to Neumora, Dr. Pinto held roles of increasing responsibility at Credit Suisse, a public financial services company, from April 2015 to June 2021, most recently serving as director of healthcare investment banking from January 2019 to June 2021, where he focused on the life sciences sector and was responsible for advising biotech companies on mergers, acquisitions, restructurings, activism and financing. Dr. Pinto worked for Piper Jaffray, a financial services company, as an associate in healthcare banking from 2014 to 2015. Before that, he worked in global external R&D at Eli Lilly, a public pharmaceutical company, from 2013 to 2014. Dr. Pinto holds a B.S. in Business Administration and Biochemistry from Centenary College of Louisiana, an M.B.A. in Finance from McMaster University and a Ph.D. in Neuroscience from McMaster University.

Carol Suh is one of our co-founders and has served as our Chief Operating Officer since January 2023. From January 2022 through January 2023, she served as our Senior Vice President, Strategy and from January 2020 through December 2021 served as our Vice President of Business Development. Ms. Suh has been a member of ARCH Venture Partners, a venture capital firm focused on early-stage technology companies, since August 2018 and became a Partner in July 2021. While at ARCH, she has been involved in company creation and helped build multiple biotechnology companies across several therapeutic areas. Ms. Suh is a co-founder of Orbital Therapeutics, a private biotechnology company, since March 2022 and has served on its board of directors since August 2022. She has served on the board of directors of HI-Bio, a private biotechnology company, since August 2021 and the Metrodora Foundation, a not-for-profit medical research institute, since October 2021. Prior to ARCH, Ms. Suh helped launch Magenta Therapeutics, previously a public biotechnology company, in 2016 and served as Business Development and Corporate Strategy Associate from June 2017 to September 2017. Previously, she was a consultant at Trinity Partners, a consulting company, from 2015 to 2016. Ms. Suh began her career in R&D strategy with the Regenerative Medicine group of GlaxoSmithKline, a public pharmaceutical company, in 2014. Ms. Suh holds an A.B. in Molecular and Cellular Biology from Harvard University, where she trained under Dr. David Scadden at the Harvard Stem Cell Institute, an M.Phil. from Yale University, where she was awarded the National Science Foundation Graduate Research Fellowship for her work in stem cell biology, and an M.B.A. from Stanford Graduate School of Business.

Key Employees

Nicholas Brandon, Ph.D., has served as our Chief Scientific Officer since January 2022 and from April 2020 to December 2021 served as our Chief Research Officer. From April 2019 to April 2020, Dr. Brandon served as senior vice president and head of biology at Jnana Therapeutics, a private biopharmaceutical company. Previously, Dr. Brandon worked at AstraZeneca, a public biopharmaceutical company, from 2012 to April 2019, where he held multiple positions including chief scientist and head of neuroscience discovery. Dr. Brandon has also served as an adjunct professor of neuroscience at Tufts School of Medicine since 2016 and as an honorary professor at University of Glasgow since 2010. Previously, Dr. Brandon was head of psychiatry and behavioral disorders for a period that bridged the Wyeth and Pfizer Neuroscience organizations, both public biopharmaceutical companies, between 2006 and 2012. Dr. Brandon holds an undergraduate degree in Genetics from Pembroke College, Cambridge University and a Ph.D. from University College London.

Maryjo Chamberlain-Tharp, Ph.D., has served as our Chief Business Officer since January 2022 and from August 2021 to December 2021 served as our Senior Vice President of Business Development. From September 2014 to August 2021, Dr. Chamberlain-Tharp held multiple positions including Global Head of Academic Outreach and Senior Director of Strategic Alliance Management at AbbVie, a public pharmaceutical company. In 2014, Dr. Chamberlain-Tharp was President and Chief Executive Officer at Z&D Biopharma Consulting, a consulting company. Prior to that, from 1997 to 2014, Dr. Chamberlain-Tharp held multiple positions including Head of Neuroscience and East Coast Operations/Global External R&D at Eli Lilly, a public pharmaceutical company. Dr. Chamberlain-Tharp holds a B.S. in Genetic Biology from Purdue University, an M.B.A. from Indiana University Bloomington and a Ph.D. in Clinical Psychiatric Epidemiology from Walden University.

Michael Gold, M.S., M.D., has served as our Chief Medical Officer since January 2023. From May 2017 to January 2023, Dr. Gold served as Vice President, Therapeutic Head, CNS Development at AbbVie, a public pharmaceutical company, where he was responsible for AbbVie's CNS pipeline and was involved in the successful approval of CNS therapies including VRAYLAR as an adjunctive treatment for major depressive disorder. Prior to that, Dr. Gold held leadership roles at a number of private and public biopharmaceutical companies, including as Vice President at PPD from July 2015 to May 2017, as Vice President at UCB from

January 2013 to June 2015 and Vice President at GlaxoSmithKline from 2005 to 2011. Dr. Gold also served as Chief Medical Officer for Allon Therapeutics, an OTC traded public biopharmaceutical company, from March 2011 to January 2013, and Accera, a private biopharmaceutical company, from July 2015 to May 2017. He was an Assistant Professor in the Department of Neurology at the University of South Florida, where he also served as the Medical Director for the Memory Disorder Clinic. Dr. Gold holds a B.S. in Chemistry, an M.S. in Mathematics and Computer Science and an M.D. from the University of Miami. He completed a Neurology residency at the Albert Einstein College of Medicine and a fellowship in Behavioral Neurology at the University of Florida College of Medicine.

Lori Houle has served as our Chief Quality Officer since January 2023, and from April 2021 through December 2022 served as our Senior Vice President of Quality. From October 2017 to April 2021, Ms. Houle acted as the Vice President of Global Quality at Vir Biotechnology, a public biotechnology company. Prior to Vir, Ms. Houle served as Head of Quality at Dermira, a public biopharmaceutical company, from 2014 to October 2017, and held leadership roles at Sarepta Therapeutics, a public biotechnology company, from 2011 to 2014, EraGen Biosciences, a private biotechnology company, from 2010 to 2011, Anteco Pharma, a private pharmaceutical company, from 2007 to 2011, PPD, a public biopharmaceutical services company that later became private, from 2004 to 2010, and Wyeth (SPL), a public pharmaceutical company, from 1998 to 2004. Ms. Houle holds a Bachelor’s degree in Bacteriology and Medical Microbiology from the University of Wisconsin–Madison and an M.B.A. from DeVry University.

Raj Manchanda, Ph.D., has served as our Chief Technical Operations Officer since July 2023. Prior to Neumora, Dr. Manchanda served as Chief Development Officer at Anokion, a private biotechnology company, from May 2019 to July 2023, where he led all aspects of technical operations including CMC and drug development activities for novel complex molecules intended to treat autoimmune diseases. Prior to Anokion, Dr. Manchanda served as Chief Development Officer at Frequency Therapeutics, a public biopharmaceutical company, from February 2016 to October 2018, where he and his teams were responsible for drug development and manufacturing, portfolio and project management, infrastructure-building, and execution of global clinical development and regulatory strategy. Prior to Frequency Therapeutics, Dr. Manchanda held leadership positions at several public and private pharmaceutical and biotechnology services companies, including Biogen, Diatide, Avid Radiopharmaceuticals, Perkin Elmer Life and Analytical Sciences and URL Pharmaceuticals. Dr. Manchanda holds a Ph.D. in Chemistry from Yale University and was an Anna Fuller postdoctoral fellow at MIT. He also completed the Advanced Management Program from Sloan School of Management at MIT.

Non-Employee Directors

Kristina Burow has served as a member of our board of directors since January 2020. Ms. Burow has served as Managing Director of ARCH Venture Partners, a venture capital firm focused on early-stage technology companies, since November 2011 and previously held various roles at ARCH from 2002 to 2011. Ms. Burow is a co-founder of Orbital Therapeutics, a private biotechnology company, and has served on its board of directors since April 2022. She currently serves on the boards of directors of various private biotechnology companies, including Boundless Bio since February 2018 and Autobahn Therapeutics since February 2017, and various public biotechnology companies, including Beam Therapeutics since June 2017, and Scholar Rock since 2014. She previously was a co-founder and member of the board of directors of Receptos, a public biotechnology company, acquired by Celgene, and a co-founder and member of the board of directors of Sapphire Energy, a private energy company. Ms. Burow previously served on the board of directors of various public biotechnology and biopharmaceutical companies, including Gossamer Bio from January 2018 to September 2023, UNITY Biotechnology, Inc. from 2013 to March 2022, Metacrine, Inc. from May 2015 to February 2022, Sienna Biopharmaceuticals, Inc. from 2015 to December 2019, and Vir Biotechnology from January 2017 to September 2020, and various private biotechnology and biopharmaceutical companies, including Vividion Therapeutics, Inc. from January 2017 to October 2021, AgBiome, LLC from 2012 to October 2021, BlackThorn from 2013 to September 2020 and Lycera Corp. from 2009 to 2020. Prior to joining ARCH, Ms. Burow was an Associate with the Novartis BioVenture Fund and an early employee at the Genomics Institute of the Novartis Research Foundation, both part of Novartis, a public pharmaceutical company. Ms. Burow holds a B.S. in Chemistry from the University of California, Berkeley, an M.A. in Chemistry from Columbia University and an M.B.A. from the

University of Chicago Booth School of Business. We believe Ms. Burow is qualified to serve on our board of directors because of her extensive experience investing in biopharmaceutical and biotechnology companies and her experience on boards of directors in the medical industry.

Matthew Fust has served as a member of our board of directors since December 2020. Mr. Fust is an advisor to life science companies and previously served as Chief Financial Officer of Onyx Pharmaceuticals, a public biopharmaceutical company, from 2009 until it was acquired by Amgen in October 2013. From October 2013 to January 2014 Mr. Fust served as Executive Vice President, Finance after Onyx Pharmaceuticals was acquired by Amgen. Prior to that, Mr. Fust held the position of Chief Financial Officer of Jazz Pharmaceuticals, a public biopharmaceutical company, from 2003 to 2008, and Chief Financial Officer of Perlegen Sciences, a private biopharmaceutical company, from 2002 to 2003. Mr. Fust previously served as Senior Vice President and Chief Financial Officer of ALZA Corporation, a public pharmaceutical company, from 1996 to 2002. Mr. Fust has served on the boards of directors of various public and private biotechnology and biopharmaceutical companies including Ultragenyx Pharmaceutical since 2014; Atara Biotherapeutics since 2014; and Crinetics Pharmaceuticals since February 2018. Mr. Fust previously served on the boards of public biotechnology and biopharmaceutical companies Dermira, from 2014 to February 2020 and MacroGenics, from 2014 to May 2020, and the private biopharmaceutical company BlackThorn from August 2017 until June 2020. Mr. Fust currently serves as an advisor to several public and private biotechnology companies. Mr. Fust holds a B.A. from the University of Minnesota and an M.B.A. from Stanford University Graduate School of Business. We believe Mr. Fust is qualified to serve on our board of directors because of his deep experience running and serving on the boards of biopharmaceutical companies.

Alaa Halawa has served as a member of our board of directors since September 2022. Mr. Halawa has served as executive director of Mubadala Capital, a venture capital firm, since March 2017. From February 2015 to March 2017, Mr. Halawa served as director at Synaptics, a public semiconductor company. Prior to that, Mr. Hawala served as director at GlobalFoundries, a public semiconductor company, from January 2014 to February 2015. Mr. Halawa currently serves on the boards of directors of several private life sciences and healthcare companies, including Alloy Therapeutics since September 2022, Innovaccer since December 2021, Xilis since July 2021 and Pretzel Therapeutics since April 2021. Mr. Halawa holds a B.A. in Electrical Engineering from University of Jordan and an M.B.A. from Cornell University. We believe Mr. Halawa is qualified to serve on our board of directors because of his experience as a venture capitalist and serving on boards of emerging companies that are at the intersection of life sciences and technology.

Maykin Ho, Ph.D., has served as a member of our board of directors since April 2021. Dr. Ho has more than 30 years of experience in the healthcare and finance industries, and has served as a venture partner of Qiming Venture Partners, a venture capital firm, since 2015, and as a member of the Biotech Advisory Panel of the Stock Exchange of Hong Kong. Dr. Ho is a retired partner of the Goldman Sachs Group, a public financial services company, where she served in several roles from 1992 to 2015, including as senior biotechnology analyst, co-head of healthcare for global investment research and advisory director for healthcare investment banking. Prior to Goldman Sachs, she held various managerial positions in licensing, strategic planning, marketing and research at DuPont-Merck Pharmaceuticals and DuPont de Nemours & Company, a public chemical company, from 1982 to 1992. Dr. Ho is a member of the board of directors for various public biopharmaceutical companies, including Agios Pharmaceuticals since 2015, BioMarin Pharmaceutical since February 2021, and FibroGen since December 2018. She has also served on the board of directors for Parexel International, a private biopharmaceutical services company, from 2015 to 2017 and from March 2018 to present, as well as for two non-profit medical research organizations, the Aaron Diamond AIDS Research Center since 2005 and the Institute for Protein Innovation since 2016. Dr. Ho previously served on the board of directors for GRAIL, a private biotechnology company, from May 2019 to August 2021, when it was acquired. Dr. Ho holds a B.S. in Medical Technology and a Ph.D. in Microbiology and Immunology from the State University of New York, Downstate Medical Center. She was a postdoctoral fellow at Harvard Medical School and a graduate of the Advanced Management Program at The Fuqua School of Business at Duke University. We believe Dr. Ho is qualified to serve on our board of directors due to her extensive experience in healthcare investment research and banking.

David Piacquad has served as a member of our board of directors since September 2023. From March 2014 through February 2022, Mr. Piacquad served as Senior Vice President, Business Development of Amgen where he was responsible for corporate strategy and business development, including external research and development, mergers & acquisitions, Amgen ventures and alliance management. Prior to that Mr. Piacquad served as Vice President, Strategy and Corporate Development at Amgen from 2010. Prior to joining Amgen, Mr. Piacquad served as Senior Vice President, Business Development & Licensing at Schering-Plough Corporation, a pharmaceutical company, from 2006 to 2009. Prior to joining Schering-Plough, Mr. Picquad served for approximately 20 years at Johnson & Johnson, a pharmaceutical and medical technologies company, in increasing roles of responsibility across its business segments. Mr. Piacquad is currently an advisor to life science companies and serves as a director to various private biotechnology companies. Mr. Piacquad holds a B.A. from Colgate University and an M.B.A from the Wharton School at the University of Pennsylvania. We believe Mr. Piacquad is qualified to serve on our board of directors because of his extensive experience in executive strategic and business development roles within the biotechnology industry and serving on the boards of biotechnology companies.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Board Structure and Composition

Director Independence

Our board of directors currently consists of seven members. Our board of directors has determined that all of our directors, other than Messrs. Berns and Gosebruch, qualify as independent directors in accordance with the Nasdaq Stock Market LLC (Nasdaq) Marketplace Rules (the Nasdaq Listing Rules). Messrs. Berns and Gosebruch are not considered independent by virtue of their positions as executive officers of the company. Under the Nasdaq Listing Rules, the definition of independence includes a series of objective tests, such as that the director is not, and has not been for at least three years, one of our employees and that neither the director nor any of his or her family members has engaged in various types of business dealings with us. In addition, as required by the Nasdaq Listing Rules, our board of directors has made a subjective determination as to each independent director that no relationship exists that, in the opinion of our board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In making these determinations, our board of directors reviewed and discussed information provided by the directors and us with regard to each director’s relationships as they may relate to us and our management.

Classified Board of Directors

In accordance with our amended and restated certificate of incorporation, which will be effective immediately prior to the completion of this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual general meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Our directors will be divided among the three classes as follows:

- The Class I directors will be Kristina Burow and Henry O. Gosebruch, and their terms will expire at the annual meeting of stockholders to be held in 2024;
- The Class II directors will be Alaa Halawa and Maykin Ho, and their terms will expire at the annual meeting of stockholders to be held in 2025; and
- The Class III directors will be Paul Berns, Matthew Fust and David Piacquad, and their terms will expire at the annual meeting of stockholders to be held in 2026.

We expect that any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control.

Voting Arrangements

The election of the members of our board of directors is currently governed by the voting agreement that we entered into with certain holders of our common stock and convertible preferred stock and the related provisions of our amended and restated certificate of incorporation. Pursuant to our voting agreement and amended and restated certificate of incorporation, our current directors were elected as follows:

- Mr. Piacquad was elected as the designee of Amgen;
- Ms. Burow was elected as the designee of ARCH Venture Partners;
- Mr. Halawa was elected as the designee of Mubadala Capital;
- Mr. Berns was elected and designated as our then serving Chief Executive Officer; and
- Mr. Fust, Dr. Ho and Mr. Gosebruch were elected and designated by the holders of a majority of our common stock and convertible preferred stock.

Our voting agreement will terminate and the provisions of our current amended and restated certificate of incorporation by which our directors were elected will be amended and restated in connection with this offering. After this offering, the number of directors will be fixed by our board of directors, subject to the terms of our amended and restated certificate of incorporation and amended and restated bylaws that will become effective immediately prior to the completion of this offering. Each of our current directors will continue to serve as a director until the election and qualification of his or her successor, or until his or her earlier death, resignation or removal.

Leadership Structure of the Board

Our amended and restated bylaws and corporate governance guidelines provide our board of directors with flexibility to combine or separate the positions of Chairman of the board of directors and Chief Executive Officer. Mr. Berns currently serves as the Executive Chairman of the Board and Mr. Gosebruch currently serves as our Chief Executive Officer.

Our board of directors has concluded that our current leadership structure is appropriate at this time. However, our board of directors will continue to periodically review our leadership structure and may make such changes in the future as it deems appropriate.

Role of Board in Risk Oversight Process

Risk assessment and oversight are an integral part of our governance and management processes. Our board of directors encourages management to promote a culture that incorporates risk management into our corporate strategy and day-to-day business operations. Management discusses strategic and operational risks at regular management meetings, and conducts specific strategic planning and review sessions during the year that include a focused discussion and analysis of the risks facing us. Throughout the year, senior management reviews these risks with the board of directors at regular board meetings as part of management presentations that focus on particular business functions, operations or strategies, and presents the steps taken by management to mitigate or eliminate such risks.

Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through our board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. While our board of directors is responsible for monitoring and assessing strategic risk exposure, our audit committee is responsible for overseeing our major financial risk exposures and the steps our management has taken to monitor and control these exposures. The audit committee also approves or disapproves any related person transactions. Our nominating and corporate governance committee monitors the effectiveness of our corporate governance guidelines. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

Board Committees

Our board of directors has three standing committees: the audit committee; the compensation committee; and the nominating and governance committee. Each committee is governed by a charter that will be available on our website following completion of this offering.

Audit Committee

Effective as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, the members of our audit committee will consist of Matthew Fust, Kristina Burow, and Maykin Ho. Matthew Fust will be the chairperson of our audit committee. The composition of our audit committee meets the requirements for independence under the current Nasdaq Listing Rules and Rule 10A-3 of the Exchange Act. Each member of our audit committee is financially literate. In addition, our board of directors has determined that Matthew Fust is an "audit committee financial expert" within the meaning of the SEC rules. This designation does not impose on such directors any duties, obligations, or liabilities that are greater than are generally imposed on members of our audit committee and our board of directors. Our audit committee is directly responsible for, among other things:

- appointing, retaining, compensating and overseeing the work of our independent registered public accounting firm;
- assessing the independence and performance of the independent registered public accounting firm;
- monitoring the rotation of partners of our independent registered public accounting firm on our engagement team as required by law;
- reviewing with our independent registered public accounting firm the scope and results of the firm's annual audit of our consolidated financial statements;
- overseeing the financial reporting process and discussing with management and our independent registered public accounting firm the consolidated financial statements that we will file with the SEC;
- pre-approving all audit and permissible non-audit services to be performed by our independent registered public accounting firm;
- reviewing policies and practices related to risk assessment and management;
- reviewing our accounting and financial reporting policies and practices and accounting controls, as well as compliance with legal and regulatory requirements;
- reviewing, overseeing, approving, or disapproving any related-person and related party transactions;
- reviewing with our management the scope and results of management's evaluation of our disclosure controls and procedures and management's assessment of our internal control over financial reporting, including the related certifications to be included in the periodic reports we will file with the SEC; and
- establishing procedures for the confidential anonymous submission of concerns regarding questionable accounting, internal controls, or auditing matters, or other ethics or compliance issues.

Compensation Committee

Effective as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, the members of our compensation committee will consist of Kristina Burow, Matthew Fust, and Alaa Halawa. Kristina Burow will be the chairperson of our compensation committee. Each of Kristina Burow, Matthew Fust, and Alaa Halawa is a non-employee director, as defined by Rule 16b-3 promulgated under the Exchange Act and meets the requirements for independence under the current Nasdaq Listing Rules. Our compensation committee is responsible for, among other things:

- reviewing and approving the compensation of our executive officers, including reviewing and approving corporate goals and objectives with respect to compensation;

- authority to act as an administrator of our equity incentive plans;
- reviewing and approving, or making recommendations to our board of directors with respect to, incentive compensation and equity plans;
- reviewing and recommending that our board of directors approve the compensation for our non-employee board members; and
- establishing and reviewing general policies relating to compensation and benefits of our employees.

Nominating and Governance Committee

Effective as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, the members of our nominating and governance committee will consist of Alaa Halawa, Kristina Burow, and Maykin Ho. Alaa Halawa will be the chairperson of our nominating and governance committee. Alaa Halawa, Kristina Burow, and Maykin Ho meet the requirements for independence under the current Nasdaq Listing Rules. Our nominating and governance committee is responsible for, among other things:

- identifying and recommending candidates for membership on our board of directors, including the consideration of nominees submitted by stockholders, and on each of the board's committees;
- reviewing and recommending our corporate governance guidelines and policies;
- reviewing proposed waivers of the code of business conduct and ethics for directors and executive officers;
- overseeing the process of evaluating the performance of our board of directors; and
- assisting our board of directors on corporate governance matters.

Code of Business Conduct and Ethics

In connection with this offering, our board of directors will adopt a code of business conduct and ethics that applies to all of our employees, officers and directors, including our Chief Executive Officer, Chief Financial Officer and other executive and senior financial officers. Upon completion of this offering, the full text of our code of business conduct and ethics will be posted on the investor relations section of our website. We intend to disclose future amendments to our code of business conduct and ethics, or any waivers of such code, on our website or in public filings.

Compensation Committee Interlocks and Insider Participation

None of our executive officers has served as a member of a compensation committee (or if no committee performs that function, the board of directors) of any other entity that has an executive officer serving as a member of our board of directors.

DIRECTOR COMPENSATION

For the year ended December 31, 2022, we did not have a formalized non-employee director compensation program.

During 2022, only Mr. Fust and Dr. Ho received cash compensation for their service on our board of directors. Each of Mr. Fust and Dr. Ho received $10,000 per quarter of service on our board of directors. In July 2022, we also granted an option to purchase 95,586 shares of our common stock to Dr. Weninger having an exercise price per share of $4.63 that vests and becomes exercisable as to 1/36th of the shares on each monthly anniversary of July 5, 2022, subject to Dr. Weninger's continued service through the applicable vesting date. In addition, we reimburse our non-employee directors for travel and other necessary business expenses incurred in the performance of their services for us.

The following table sets forth information concerning the compensation earned by our non-employee directors during the year ended December 31, 2022.

2022 Director Compensation Table

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)[1]	Total ($)
Kristina Burow	—	—	—
Matthew Fust	40,000	—	40,000
Alaa Halawa	—	—	—
Maykin Ho, Ph.D.	40,000	—	40,000
Robert Nelsen[2]	—	—	—
Kári Stefánsson[3]	—	—	—
Stacie Weninger[4]	—	405,981	—

(1) For the option awards column, amount shown represents the grant date fair value of the option granted during 2022 as calculated in accordance with ASC Topic 718. See Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation* (FASB ASC Topic 718). Assumptions used in the calculation of these amounts are described in Note 13 to our audited consolidated financial statements and Note 11 to our unaudited condensed consolidated financial statements appearing elsewhere in this prospectus. As of December 31, 2022, each of Drs. Ho and Weninger and Mr. Fust held an option to purchase 95,586 shares of our common stock, and no other stock options or stock awards were held by any of our non-employee directors as of December 31, 2022.

(2) Mr. Nelsen resigned as a director in September 2023.

(3) Dr. Stefánsson resigned as a director in September 2023.

(4) Dr. Weninger resigned as a director in August 2023.

Commencing on the completion of this offering, our non-employee directors will be compensated in accordance with our non-employee director compensation program (the Director Compensation Program). Pursuant to the Director Compensation Program, our non-employee directors will receive cash compensation, paid quarterly in arrears, as follows:

- Each non-employee director will receive a cash retainer in the amount of $40,000 per year.
- Each lead independent director will receive a cash retainer in the amount of $25,000 per year.
- The chairperson of the audit committee will receive a cash retainer in the amount of $20,000 per year for such chairperson's service on the audit committee. Each non-chairperson member of the audit committee will receive a cash retainer in the amount of $10,000 per year for such member's service on the audit committee.
- The chairperson of the compensation committee will receive a cash retainer in the amount of $15,000 per year for such chairperson's service on the compensation committee. Each non-chairperson member

of the compensation committee will receive a cash retainer in the amount of $7,500 per year for such member’s service on the compensation committee.

- The chairperson of the nominating and corporate governance committee will receive a cash retainer in the amount of $10,000 per year for such chairperson’s service on the nominating and corporate governance committee. Each non-chairperson member of the nominating and corporate governance committee will receive a cash retainer in the amount of $5,000 per year for such member’s service on the nominating and corporate governance committee.

Each non-employee director may elect, on an annual basis, to convert all or a portion of such non-employee director’s annual retainer into a number of restricted stock units granted under the 2023 Plan, which will be fully vested on the date of grant, and settlement of the restricted stock units may be deferred at the election of the non-employee director.

Under the Director Compensation Program, each non-employee director will automatically be granted an option (the Initial Grant) under the 2023 Plan to purchase that number of shares of our common stock equal to (i) $600,000, divided by (ii) the per share grant date fair value of the option award. The Initial Grant will vest as to 1/36th of the underlying shares on a monthly basis over three years, subject to continued service through the applicable vesting date. In addition, on the date of each annual meeting of our stockholders following the completion of this offering, each non-employee director who (i) has been serving on our board of directors for at least four months and (ii) will continue to serve as a non-employee director immediately following such annual meeting will automatically be granted an option (the Annual Grant) under the 2023 Plan to purchase that number of shares of our common stock equal to (i) $350,000, divided by (ii) the per share grant date fair value of the option award. The Annual Grant will vest in full on the earlier of the (i) first anniversary of the grant date, and (ii) immediately prior to the annual meeting of our stockholders following the date of grant, subject to continued service through the applicable vesting date.

Pursuant to the Director Compensation Program, upon a change in control transaction, all outstanding equity awards held by our non-employee directors will vest in full.

EXECUTIVE COMPENSATION

The following is a discussion and analysis of compensation arrangements of our named executive officers (NEOs). This discussion contains forward looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt may differ materially from currently planned programs as summarized in this discussion. As an "emerging growth company" as defined in the JOBS Act, we are not required to include a Compensation Discussion and Analysis section and have elected to comply with the scaled disclosure requirements applicable to emerging growth companies.

We seek to ensure that the total compensation paid to our executive officers is reasonable and competitive. Compensation of our executives is structured around the achievement of individual performance and near-term corporate targets as well as long-term business objectives.

Our NEOs for 2022 were as follows:

- Paul L. Berns, our Co-Founder, Executive Chairman and former Chief Executive Officer;
- Joshua Pinto, Ph.D., our Chief Financial Officer; and
- John Dunlop, Ph.D., our former Head of Research and Development.

In July 2023, in connection with the appointment of Henry O. Gosebruch as our President and Chief Executive Officer, Mr. Berns transitioned to serve as our Executive Chairman. Dr. Dunlop ceased serving as our Head of Research and Development in May 2023.

2022 Summary Compensation Table

The following table sets forth total compensation paid to our named executive officers for the year ending on December 31, 2022.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)(3)	Total ($)
Paul L. Berns(4)	2022	570,000		1,755,346	308,798	780	2,634,924
Co-Founder, Executive Chairman and former Chief Executive Officer	2021	520,000	13,000		247,000		780,000
Joshua Pinto, Ph.D.	2022	465,800		2,945,778	188,882	221,954	3,822,414
Chief Financial Officer	2021	262,500	510,000	2,388,353	177,800	98,653	3,437,306
John Dunlop, Ph.D.(5)	2022	450,000		715,918	166,725	780	1,333,423
Former Head of Research and Development							

(1) The amounts reported represent the aggregate grant date fair value and incremental fair value of the stock options granted or modified in 2022, calculated in accordance with ASC Topic 718. The assumptions used in calculating the grant date fair value and incremental fair value of the options reported in this column will be included in the financial statements for the year ended December 31, 2022 that will be included in an amendment to this registration statement.

(2) Annual cash incentive amounts for all NEOs were determined in January 2023, under our 2022 Bonus Plan, as described in the section below titled "2022 Bonuses."

(3) $780 of the amount reported for each NEO constitutes a technology allowance. $215,000 and $6,174 of the amount reported for Dr. Pinto constitutes a relocation allowance and employer matching contributions under our 401(k) plan, respectively.

(4) Mr. Berns transitioned to serve as our Executive Chairman in July 2023.

(5) Dr. Dunlop's employment with us terminated in May 2023.

Narrative to Summary Compensation Table

2022 Salaries

Our NEOs each receive a base salary to compensate them for services rendered to our company. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role and responsibilities.

For 2022, Mr. Berns, Dr. Pinto and Dr. Dunlop had an annual base salary of $570,000, $465,800 and $450,000, respectively.

In January 2023, Mr. Berns' and Dr. Pinto's annual base salary was increased to $625,000 and $484,432, respectively. In connection with Mr. Berns' transition to Executive Chairman in July 2023, his annual base salary was reduced to $450,000.

In connection with Mr. Gosebruch's appointment as our President and Chief Executive Officer in July 2023, his annual base salary was established at $675,000.

Our board of directors and compensation committee may adjust base salaries from time to time in their discretion.

2022 Bonuses

We maintain an annual performance-based cash bonus program in which each of our NEOs participated in 2022. Each NEO's target bonus is expressed as a percentage of their annual base salary which can be achieved by meeting company and individual goals at target level. The 2022 annual bonuses for Mr. Berns, Dr. Pinto and Dr. Dunlop were targeted at 55%, 40% and 40% of their respective base salaries. Our board of directors has historically reviewed these target percentages to ensure they are adequate, but does not follow a formula. Instead, our board of directors set these rates based on each NEO's experience in their role with us and the level of responsibility held by the NEO, which we believe directly correlates to their ability to influence corporate results.

For determining performance bonus amounts, our board of directors set certain corporate performance goals after receiving input from our Chief Executive Officer. Mr. Berns' bonus is based 100% on the achievement of our corporate goals and Dr. Pinto's and Dr. Dunlop's bonus is based 75% on the achievement of our corporate goals and 25% on individual performance. In January 2023, our board of directors, upon recommendation of the compensation committee, determined corporate goal achievement at 98.5% and assessed Dr. Pinto's and Dr. Dunlop's individual performance. The actual amounts paid to our named executive officers are set forth in the Summary Compensation Table above under the column "Non-Equity Incentive Plan Compensation."

Dr. Pinto's annual bonus opportunity remains 40% of his base salary for 2023. In July 2023, the annual bonus opportunity for each of Mr. Berns and Mr. Gosebruch was set at 60% of his respective base salary.

Mr. Gosebruch was also provided a sign on bonus in the amount of $2,500,000 in connection with his commencement of employment with us as our President and Chief Executive Officer in July 2023. The sign on bonus must be repaid in full if Mr. Gosebruch's employment with us is terminated prior to July 2025 for any reason other than a termination by us for cause, by Mr. Gosebruch for good reason or as a result of death or disability.

Equity-Based Compensation

In January 2022, our board of directors modified the performance goals applicable to the performance-based portion of the option granted to Dr. Pinto on June 7, 2021 in connection with his commencement of employment with us. The modified portion of the option, which covers 446,068 shares of our common stock, provides for vesting in three tranches. The first tranche commences vesting upon completion of this offering, with 50% of the shares underlying the tranche vesting on the closing of this offering and 50% of the shares underlying the tranche vesting in 24 equal monthly installments. The remaining two tranches commence vesting upon the achievement of two stock price goals, with the portion earned based on achievement vesting in equal monthly installments over the two years subsequent to achievement. In June 2023, the option vesting terms were further modified to remove the stock price goals applicable to the second and third tranches and, in lieu, a 36 month monthly time based vesting commencing on June 30, 2023 was implemented.

In January 2022, our board of directors granted each of Mr. Berns, Dr. Pinto and Dr. Dunlop an option to purchase 497,049, 720,084 and 203,917 shares of our common stock, respectively, with an exercise price per share of $4.63, that vests as to 25% of the shares underlying the option on February 1, 2023 and as to 1/48th of the original number of shares underlying the option each month thereafter, subject to continued service to us through the applicable vesting date.

In connection with Mr. Berns' transition to serve as our Executive Chairman in July 2023, we granted Mr. Berns an option to purchase 955,864 shares of our common stock, with an exercise price per share of $0.81, that vests as to 25% of the shares underlying the option on July 3, 2024 and as to 1/48th of the original number of shares underlying the option each month thereafter, subject to continued service to us through the applicable vesting date.

In connection with Mr. Gosebruch's commencement of employment with us in July 2023 as our President and Chief Executive Officer, we granted Mr. Gosebruch an option to purchase 2,039,177 shares of our common stock for $6.36 per share. Mr. Gosebruch's option vests as to 25% of the shares underlying the option on July 3, 2024 and as to 1/48th of the original number of shares underlying the option each month thereafter, subject to continued service to us through the applicable vesting date.

We also granted Mr. Gosebruch the right to purchase 127,448 fully vested shares of our common stock, the stock purchase right, for $6.36 per share and a restricted stock award covering 382,345 shares of our common stock if Mr. Gosebruch exercised the stock purchase right in full. In July 2023, Mr. Gosebruch exercised his stock purchase right in full and, in turn, the restricted stock award was granted covering 382,345 shares of our common stock, all of which were subject to a risk of forfeiture upon certain terminations of Mr. Gosebruch's employment. The risk of forfeiture lapses as to 25% of the shares underlying the restricted stock award on July 3, 2024 and as to 1/48th of the original number of shares underlying the restricted stock award each month thereafter, subject to continued service to us.

In connection with this offering, we have adopted the 2023 Plan in order to facilitate the grant of cash and equity incentives to directors, employees (including our NEOs) and consultants of our company and certain of its affiliates and to enable us to obtain and retain services of these individuals, which is essential to our long-term success. We expect that the 2023 Plan will be effective on the day prior to the first public trading date of our common stock, subject to approval of such plan by our stockholders. For additional information about the 2023 Plan, please see the section titled "Shares Eligible for Future Sale—Equity Incentive Plans."

Other Elements of Compensation

Retirement Savings and Health and Welfare Benefits

We currently maintain a 401(k) retirement savings plan for our employees, including our named executive officers, who satisfy certain eligibility requirements. Our named executive officers are eligible to participate in the 401(k) plan on the same terms as other full-time employees. During 2022, we matched 50% of up to 6% of employee, including NEO, compensation that is contributed to our 401(k) plan, up to plan limits.

All of our full-time employees, including our NEOs, are eligible to participate in our health and welfare plans, including medical, dental and vision benefits; medical and dependent care flexible spending accounts; short-term and long-term disability insurance; and life and AD&D insurance. Our NEOs are eligible for certain enhanced benefits under our executive-level medical insurance, life insurance and short-term and long-term disability insurance.

Perquisites and Other Personal Benefits

We did not provide any perquisites to our named executive officers during 2022, other than a $215,000 relocation allowance paid to Dr. Pinto in order to incentivize him to relocate his principal residence to the general vicinity of our offices.

In July 2023, in connection with Mr. Gosebruch's commencement of employment with us as our President and Chief Executive Officer, we reimbursed Mr. Gosebruch legal fees incurred in negotiating his employment agreement with us.

Our compensation committee may from time to time approve perquisites in the future when our compensation committee determines that they are necessary or advisable to fairly compensate or incentivize our employees.

Outstanding Equity Awards at 2022 Year End

The following table lists all outstanding equity awards held by our NEOs as of December 31, 2022.

		Option Awards					Stock Awards	
Name	Vesting Commencement Date (1)	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Optiodns Unexercisable (#)	Equity Incentive Plan Awards: Number of Securities Underlying Unexerdcised, Unearned Options (#)	Option Exercise Price ($)	Option Expiration Date	Equity Incentive Plan Awards: Number of Unearned Shares, Units, or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units, or Other Rights That Have Not Vested ($) (2)
Paul L. Berns	2/1/2022		497,049		4.63	1/26/2032		
	1/17/2020				0.001		1,725,866(3)	11,238,229
	11/1/2018	88,707			10.83	9/7/2030		
Joshua Pinto, Ph.D.	2/1/2022		720,084		4.63	1/26/2032		
	6/1/2021(4)	63,724	318,621	334,552	2.51	6/6/2031	111,517	370,387
John Dunlop, Ph.D.	2/1/2022		203,917		4.63	1/26/2032		
	9/4/2020	35,844	27,879		2.51	9/2/2030		
	1/17/2020				0.001		138,069(3)	899,059

(1) Except as otherwise noted, each Option vests and becomes exercisable as to 25% of the underlying shares on the first anniversary of the vesting commencement date and as to 1/48th of the underlying shares on each monthly anniversary of the vesting commencement date thereafter, in each case, subject to continued service to us.

(2) Market value based on $6.51 per share, the fair market value of our common stock as of December 31, 2022, as determined by our board of directors, less the repurchase price payable by us.

(3) Constitutes restricted shares of our common stock acquired upon exercise of a stock purchase right that remain subject to repurchase by us at their original purchase price of $0.001 per share. The restricted shares vest and our repurchase right lapses in substantially equal monthly installments through the fourth anniversary of the vesting commencement date, subject to continued service to us.

(4) 382,345 shares that remain subject to the option were subject to service-based vesting and 446,068 shares underlying the option were subject to performance-based vesting. The unvested portion of the service-based portion of the option vests in substantially equal monthly installments through the fourth anniversary of the vesting commencement date, subject to continued service to us. The performance-based portion of the option is split into three tranches. The first tranche will become eligible to vest upon the closing of this offering, with 50% of the shares in the first tranche vesting on the closing on this offering and 50% of the shares in the first tranche vesting in 24 equal monthly installments commencing on the closing of this offering. The remaining two tranches will vest in 36 equal monthly installments commencing June 30, 2023. The option was exercised in respect of 238,966 shares prior to vesting, of which 111,517 shares remain subject to performance-based vesting. The shares acquired prior to vesting are subject to a repurchase right in favor of us for $2.51 per share in the event the NEO terminates employment prior to vesting. Exercised shares vest prior to shares that remain subject to the option.

Executive Compensation Arrangements

We have entered into offer letters and proprietary information and invention assignment agreements with each of our NEOs. Each offer letter sets forth the title, base salary, target bonus opportunity and initial equity award for the executive. The offer letters entered into with Mr. Berns and Dr. Pinto provide the executive with four months' base salary and up to four months of continued healthcare coverage or COBRA reimbursements in the event the executive's employment is terminated by us without cause or by the executive for good reason. In addition, Dr. Pinto's offer letter provided for a sign-on bonus and included a provision entitling Dr. Pinto to any better employment terms negotiated by any other executive directly reporting to our Chief Executive Officer.

In April 2022, we entered into new employment agreements with Mr. Berns, Dr. Pinto and Dr. Dunlop that superseded their prior offer letters. In addition to setting forth the title, base salary and target bonus opportunity for each executive, the employment agreements provide for the executive to receive severance in the event the executive's employment with us is terminated by us without cause or by the executive for good reason, each as defined in the applicable employment agreement. In the event the qualifying termination occurs more than 3 months prior to or more than 18 months after a change in control, as defined in each employment agreement, Mr. Berns is entitled to receive 12 months continued base salary and up to 12 months of continued health-care coverage or COBRA reimbursements and each of Dr. Pinto and Dr. Dunlop is entitled to receive 9 months continued base salary and up to 9 months of continued healthcare coverage or COBRA reimbursements. In the event the qualifying termination occurs within the period beginning 3 months prior to and ending 18 months after a change in control, Mr. Berns is entitled to a lump sum payment of 12 months base salary and his target bonus opportunity, continued healthcare coverage or COBRA reimbursements for up to 18 months and full vesting acceleration of all equity awards, and each of Dr. Pinto and Dr. Dunlop is entitled to a lump sum payment of 12 months base salary and his target bonus opportunity, continued healthcare coverage or COBRA reimbursement for up to 12 months and full vesting acceleration of all equity awards. Each executive must provide a general release of claims in order to receive severance benefits.

In July 2023, Mr. Berns transitioned to serve as our Executive Chairman and Mr. Gosebruch commenced employment with us as our President and Chief Executive Officer. Dr. Dunlop's employment with us terminated in May 2023.

In connection with Mr. Berns' transition to the role of Executive Chairman in July 2023, we entered into an Executive Chairman Agreement with him that superseded the employment agreement described above. Under the Executive Chairman Agreement, Mr. Berns will be paid an annual base salary of $450,000 and be eligible for an annual bonus targeted at 60% of his base salary. The Executive Chairman Agreement also provided for Mr. Berns to be granted an option to purchase 955,864 shares of our common stock, with an exercise price per share of $6.36, which our board of directors determined was equal to the fair market value of a share on the date of grant, that vests as to 25% of the shares underlying the option on July 3, 2024 and as to 1/48th of the original number of shares underlying the option each month thereafter, subject to continued service to us through the applicable vesting date. Under the Executive Chairman Agreement, in the event of a change in control, as defined in the Executive Chairman Agreement, the vesting of each stock option and other equity award held by Mr. Berns will fully accelerate.

In July 2023, we entered into an Executive Employment Agreement with Mr. Gosebruch setting forth the terms and conditions of Mr. Gosebruch's employment with us as our President and Chief Executive Officer. The Executive Employment Agreement provides for Mr. Gosebruch to be paid an annual base salary of $675,000 and an annual bonus targeted at 60% of Mr. Gosebruch's base salary. The Executive Employment Agreement also provided for Mr. Gosebruch to be paid a sign on bonus in the amount of $2,500,000 that must be repaid in full if Mr. Gosebruch's employment with us is terminated prior to July 2025 for any reason other than a termination by us for cause, by Mr. Gosebruch for good reason or as a result of death or disability, in each case, as defined in the Executive Employment Agreement.

In addition, the Executive Employment Agreement provided for the grant to Mr. Gosebruch of an option to purchase 2,039,177 shares of our common stock for $6.36 per share, which our board of directors determined was equal to the fair market value of a share on the date of grant. Mr. Gosebruch's option vests as to 25% of the shares underlying the option on July 3, 2024 and as to 1/48th of the original number of shares underlying the option each month thereafter, subject to continued service to us through the applicable vesting date. The Executive Employment Agreement also provided for the grant to Mr. Gosebruch of a stock purchase right covering 127,448 fully vested shares of our common stock for $6.36 per share, which our board of directors determined was equal to the fair market value of a share on the date of grant and a restricted stock award covering 382,345 shares of our common stock if Mr. Gosebruch exercised the stock purchase right in full. In July 2023, Mr. Gosebruch exercised his stock purchase right in full and, in accordance with the Executive Employment Agreement, the restricted stock award was granted covering 382,345 shares of our common stock, all of which were subject to a risk of forfeiture upon certain terminations of Mr. Gosebruch's employment. The risk of forfeiture lapses as to 25% of the shares underlying the restricted stock award on July 3, 2024 and as to 1/48th of the original number of shares underlying the restricted stock award each month thereafter, subject to continued service to us through the applicable vesting date.

Under the Executive Employment Agreement, Mr. Gosebruch is eligible to receive severance in the event the his employment with us is terminated by us without cause or by him for good reason. In the event the qualifying termination occurs more than 3 months prior to or more than 12 months after a change in control, as defined in the Executive Employment Agreement, Mr. Gosebruch is entitled to receive 12 months continued base salary, his target bonus opportunity, up to 12 months of continued health-care coverage or COBRA reimbursements and solely in the event of a termination by us without cause, extended exercisability of any portion of the initial stock option granted to Mr. Gosebruch that is vested and outstanding as of the date of termination through the earliest of the (i) the 10 year anniversary of the stock option grant, (ii) the nine-month anniversary of this offering, or (iii) immediately prior to a change in control. In the event the qualifying termination occurs within the period beginning 3 months prior to and ending 12 months after a change in control, Mr. Gosebruch is entitled to 24 months of base salary, two times his target annual bonus opportunity, continued healthcare coverage or COBRA reimbursements for up to 24 months and full vesting acceleration of all equity awards. Mr. Gosebruch must provide a general release of claims in order to receive severance benefits.

The Executive Employment Agreement also provided for us to reimburse Mr. Gosebruch up to $20,000 for legal fees incurred in negotiating the Executive Employment Agreement.

Equity Compensation Plans

The following summarizes the material terms of the long-term incentive compensation plan in which our named executive officers will be eligible to participate following the consummation of this offering and our 2020 Equity Incentive Plan (the 2020 Plan) and the Blackthorn Therapeutics, Inc. 2015 Equity Incentive Plan that we assumed in a transaction in 2020 (the 2015 Plan, and together with the 2020 Plan, the Prior Plans), under which we have previously made periodic grants of equity and equity-based awards to our named executive officers and other key employees.

2023 Incentive Award Plan

We have adopted the 2023 Plan, which will be effective on the day prior to the first public trading date of our common stock. The principal purpose of the 2023 Plan is to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards and cash-based performance bonus awards. The material terms of the 2023 Plan, as it is currently contemplated, are summarized below.

Share Reserve. Under the 2023 Plan, a number of shares of our common stock equal to 10% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) plus any shares of our common stock reserved for future issuance under our 2020 Plan that have not been issued pursuant to any outstanding equity grants, will be initially reserved for issuance pursuant to a variety of stock-based compensation awards, including stock options, stock appreciation rights, or SARs, restricted stock awards, restricted stock unit awards and other stock-based awards. The number of shares initially reserved for issuance or transfer pursuant to awards under the 2023 Plan will be increased by

(i) the number of shares represented by awards outstanding under our Prior Plans, or Prior Plan Awards, that become available for issuance under the counting provisions described below following the effective date and (ii) an annual increase on each January 1 beginning in 2024 and ending in 2032, equal to the lesser of (A) 5% of the shares of our common stock outstanding (on an as converted basis) on the immediately preceding December 31 and (B) such smaller number of shares of stock as determined by our board of directors; provided, however, that no more than 85% shares of stock may be issued upon the exercise of incentive stock options.

The following counting provisions will be in effect for the share reserve under the 2023 Plan:

- to the extent that an award (including a Prior Plan Award) terminates, expires or lapses for any reason or an award is settled in cash without the delivery of shares, any shares subject to the award at such time will be available for future grants under the 2023 Plan;
- to the extent shares are tendered or withheld to satisfy the grant, exercise price or tax withholding obligation with respect to any award under the 2023 Plan or Prior Plan Award, such tendered or withheld shares will be available for future grants under the 2023 Plan;
- to the extent shares subject to stock appreciation rights are not issued in connection with the stock settlement of stock appreciation rights on exercise thereof, such shares will be available for future grants under the 2023 Plan;
- to the extent that shares of our common stock are repurchased by us prior to vesting so that shares are returned to us, such shares will be available for future grants under the 2023 Plan;
- the payment of dividend equivalents in cash in conjunction with any outstanding awards or Prior Plan Awards will not be counted against the shares available for issuance under the 2023 Plan; and
- to the extent permitted by applicable law or any exchange rule, shares issued in assumption of, or in substitution for, any outstanding awards of any entity acquired in any form of combination by us or any of our subsidiaries will not be counted against the shares available for issuance under the 2023 Plan.

In addition, the sum of the grant date fair value of all equity-based awards and the maximum that may become payable pursuant to all cash-based awards to any individual for services as a non-employee director during any calendar year may not exceed $1.5 million initially and $1.0 million annually thereafter.

Administration. The compensation committee of our board of directors is expected to administer the 2023 Plan unless our board of directors assumes authority for administration. The compensation committee must consist of at least three members of our board of directors, each of whom is intended to qualify as a “non-employee director” for purposes of Rule 16b-3 under the Exchange Act and an “independent director” within the meaning of the rules of the applicable stock exchange, or other principal securities market on which shares of our common stock are traded. The 2023 Plan provides that the board or compensation committee may delegate its authority to grant awards to employees other than executive officers and certain senior executives of the company to a committee consisting of one or more members of our board of directors or one or more of our officers, other than awards made to our non-employee directors, which must be approved by our full board of directors.

Subject to the terms and conditions of the 2023 Plan, the administrator has the authority to select the persons to whom awards are to be made, to determine the number of shares to be subject to awards and the terms and conditions of awards, and to make all other determinations and to take all other actions necessary or advisable for the administration of the 2023 Plan. The administrator is also authorized to adopt, amend or rescind rules relating to administration of the 2023 Plan. Our board of directors may at any time remove the compensation committee as the administrator and revest in itself the authority to administer the 2023 Plan. The full board of directors will administer the 2023 Plan with respect to awards to non-employee directors.

Eligibility. Options, SARs, restricted stock and all other stock-based and cash-based awards under the 2022 Plan may be granted to individuals who are then our officers, employees or consultants or are the officers, employees or consultants of certain of our subsidiaries. Such awards also may be granted to our directors. Only employees of our company or certain of our subsidiaries may be granted incentive stock options, or ISOs.

Awards. The 2023 Plan provides that the administrator may grant or issue stock options, SARs, restricted stock, restricted stock units, other stock- or cash-based awards and dividend equivalents, or any combination thereof. Each award will be set forth in a separate agreement with the person receiving the award and will indicate the type, terms and conditions of the award.

- *Nonstatutory Stock Options*, or NSOs, will provide for the right to purchase shares of our common stock at a specified price which may not be less than fair market value on the date of grant, and usually will become exercisable (at the discretion of the administrator) in one or more installments after the grant date, subject to the participant's continued employment or service with us and/or subject to the satisfaction of corporate performance targets and individual performance targets established by the administrator. NSOs may be granted for any term specified by the administrator that does not exceed ten years.
- *Incentive Stock Options*, or ISOs, will be designed in a manner intended to comply with the provisions of Section 422 of the Code, and will be subject to specified restrictions contained in the Code. Among such restrictions, ISOs must have an exercise price of not less than the fair market value of a share of common stock on the date of grant, may only be granted to employees, and must not be exercisable after a period of ten years measured from the date of grant. In the case of an ISO granted to an individual who owns (or is deemed to own) at least 10% of the total combined voting power of all classes of our capital stock, the 2023 Plan provides that the exercise price must be at least 110% of the fair market value of a share of common stock on the date of grant and the ISO must not be exercisable after a period of five years measured from the date of grant.
- *Restricted Stock* may be granted to any eligible individual and made subject to such restrictions as may be determined by the administrator. Restricted stock, typically, may be forfeited for no consideration or repurchased by us at the original purchase price if the conditions or restrictions on vesting are not met. In general, restricted stock may not be sold or otherwise transferred until restrictions are removed or expire. Purchasers of restricted stock, unlike recipients of options, will have voting rights and will have the right to receive dividends, if any, prior to the time when the restrictions lapse, however, extraordinary dividends will generally be placed in escrow, and will not be released until restrictions are removed or expire.
- *Restricted Stock Units* may be awarded to any eligible individual, typically without payment of consideration, but subject to vesting conditions based on continued employment or service or on performance criteria established by the administrator. Like restricted stock, restricted stock units may not be sold, or otherwise transferred or hypothecated, until vesting conditions are removed or expire. Unlike restricted stock, stock underlying restricted stock units will not be issued until the restricted stock units have vested, and recipients of restricted stock units generally will have no voting or dividend rights prior to the time when vesting conditions are satisfied.
- *Stock Appreciation Rights*, or SARs, may be granted in connection with stock options or other awards, or separately. SARs granted in connection with stock options or other awards typically will provide for payments to the holder based upon increases in the price of our common stock over a set exercise price. The exercise price of any SAR granted under the 2023 Plan must be at least 100% of the fair market value of a share of our common stock on the date of grant. SARs under the 2023 Plan will be settled in cash or shares of our common stock, or in a combination of both, at the election of the administrator.
- *Other Stock or Cash Based Awards* are awards of cash, fully vested shares of our common stock and other awards valued wholly or partially by referring to, or otherwise based on, shares of our common stock. Other stock or cash based awards may be granted to participants and may also be available as a payment form in the settlement of other awards, as standalone payments and as payment in lieu of base salary, bonus, fees or other cash compensation otherwise payable to any individual who is eligible to receive awards. The plan administrator will determine the terms and conditions of other stock or cash based awards, which may include vesting conditions based on continued service, performance and/or other conditions.

- *Dividend Equivalents* represent the right to receive the equivalent value of dividends paid on shares of our common stock and may be granted alone or in tandem with awards other than stock options or SARs. Dividend equivalents are credited as of dividend payments dates during the period between a specified date and the date such award terminates or expires, as determined by the plan administrator. In addition, dividend equivalents with respect to shares covered by a performance award will only be paid to the participant at the same time or times and to the same extent that the vesting conditions, if any, are subsequently satisfied and the performance award vests with respect to such shares.

Any award may be granted as a performance award, meaning that the award will be subject to vesting and/or payment based on the attainment of specified performance goals.

Change in Control. In the event of a change in control, unless the plan administrator elects to terminate an award in exchange for cash, rights or other property, or cause an award to accelerate in full prior to the change in control, such award will continue in effect or be assumed or substituted by the acquirer, provided that any performance-based portion of the award will be subject to the terms and conditions of the applicable award agreement. The administrator may also make appropriate adjustments to awards under the 2023 Plan and is authorized to provide for the acceleration, cash-out, termination, assumption, substitution or conversion of such awards in the event of a change in control or certain other unusual or nonrecurring events or transactions.

Adjustments of Awards. In the event of any stock dividend or other distribution, stock split, reverse stock split, reorganization, combination or exchange of shares, merger, consolidation, split-up, spin-off, recapitalization, repurchase or any other corporate event affecting the number of outstanding shares of our common stock or the share price of our common stock that would require adjustments to the 2023 Plan or any awards under the 2023 Plan in order to prevent the dilution or enlargement of the potential benefits intended to be made available thereunder, the administrator will make appropriate, proportionate adjustments to: (i) the aggregate number and type of shares subject to the 2023 Plan; (ii) the number and kind of shares subject to outstanding awards and terms and conditions of outstanding awards (including, without limitation, any applicable performance targets or criteria with respect to such awards); and (iii) the grant or exercise price per share of any outstanding awards under the 2023 Plan.

Amendment and Termination. The administrator may terminate, amend or modify the 2023 Plan at any time and from time to time. However, we must generally obtain stockholder approval to the extent required by applicable law, rule or regulation (including any applicable stock exchange rule). Notwithstanding the foregoing, an option may be amended to reduce the per share exercise price below the per share exercise price of such option on the grant date and options may be granted in exchange for, or in connection with, the cancellation or surrender of options having a higher per share exercise price without receiving additional stockholder approval.

No incentive stock options may be granted pursuant to the 2023 Plan after the tenth anniversary of the effective date of the 2023 Plan, and no additional annual share increases to the 2023 Plan's aggregate share limit will occur from and after such anniversary. Any award that is outstanding on the termination date of the 2023 Plan will remain in force according to the terms of the 2023 Plan and the applicable award agreement.

2020 Equity Incentive Plan

We currently maintain the 2020 Plan, which was adopted by our board of directors in January 2020. We have previously granted stock options to our NEOs under the 2020 Plan, as described in more detail above. The principal purpose of the 2020 Plan is to enhance our ability to attract, retain and motivate persons who make (or are expected to make) important contributions to us by providing them with equity ownership opportunities.

Following the completion of this offering, we will not make any further grants under the 2020 Plan. However, the 2020 Plan will continue to govern the terms and conditions of the outstanding awards granted under the 2020 Plan which, as of the date of this prospectus, constitute 13,233,290 outstanding stock options and 1,019,586 restricted stock awards.

Eligibility. The 2020 Plan provides for the grant of non-qualified options, restricted stock, restricted stock units or other stock-based awards to employees, non-employee members of the board of directors and consultants. The 2020 Plan provides for the grant of ISOs to employees.

Share Reserve. We have reserved an aggregate of 14,318,527 shares of our common stock for issuance under the 2020 Plan. As of December 31, 2022, options to purchase a total of 9,176,991 shares of our common stock were issued and outstanding, a total of 1,620,877 shares of common stock had been issued upon the exercise of options or pursuant to other awards granted under the 2020 Plan and were outstanding, and 6,267,376 shares remained available for future grants.

Administration. Our board of directors or a committee appointed by our board of directors administers the 2020 Plan. The administrator has the authority to select the service providers to whom equity awards will be granted under the 2020 Plan, the number of shares to be subject to those awards under the 2020 Plan, and the terms and conditions of the awards granted. In addition, the administrator has the authority to construe and interpret the 2020 Plan and to adopt rules for the administration, interpretation and application of the 2020 Plan that are consistent with the terms of the 2020 Plan.

Awards. The 2020 Plan provides that the administrator may grant or issue stock options, restricted stock, restricted stock units or stock awards, or any combination thereof. Each award will be set forth in a separate agreement with the person receiving the award and will indicate the type, terms and conditions of the award.

- NSOs will provide for the right to purchase shares of our common stock at a specified price which shall be not less than fair market value on the date of grant, and usually will become exercisable (at the discretion of the administrator) in one or more installments after the grant date, subject to the participant’s continued employment or service with us. NSOs may be granted for any term specified by the administrator, but in no event more than 10 years after they are granted.
- ISOs will be designed in a manner intended to comply with the provisions of Section 422 of the Code, and will be subject to specified restrictions contained in the Code. Among such restrictions, ISOs must have an exercise price of not less than the fair market value of a share of common stock on the date of grant (or 110% for an individual who owns (or is deemed to own) more than 10% of the total combined voting power of all classes of our capital stock), may only be granted to employees, and must not be exercisable after a period of ten years measured from the date of grant (or five years for an individual who owns (or is deemed to own) more than 10% of the total combined voting power of all classes of our capital stock).
- Restricted Stock may be granted to any eligible individual and made subject to such restrictions as may be determined by the administrator, including whether there is any purchase price. Restricted stock, typically, may be forfeited for no consideration or repurchased by us at the original purchase price if the conditions or restrictions on vesting are not met. In general, restricted stock may not be sold or otherwise transferred until restrictions are removed or expire. Recipients of restricted stock awards will generally have rights equivalent to those of a stockholder with respect to such shares upon grant without regard to vesting.
- Restricted stock units are units representing an amount equal to the fair market value of one share of our common stock. The administrator determines the terms and conditions of restricted stock units including the vesting criteria, which may include accomplishing specified performance criteria or continued service to us, and the form and timing of payment. Notwithstanding the foregoing, the administrator, in its sole discretion may accelerate the time at which any restrictions will lapse or be removed.
- Stock Awards are awards of shares of our common stock and other awards valued wholly or partially by referring to, or otherwise based on, shares of our common stock. Stock awards may be granted to participants as standalone payments and as payment in lieu of base salary, bonus, fees or other cash compensation otherwise payable to any individual who is eligible to receive awards. The plan administrator will determine the terms and conditions of stock awards.

Transfer. A participant may not transfer stock awards under our 2020 Plan other than by will, the laws of descent and distribution, or as otherwise provided under our 2020 Plan.

Certain Events. In the event of any dividend or other distribution, reorganization, merger, consolidation, combination, repurchase, recapitalization, liquidation, dissolution, or sale, transfer, exchange or other disposition of all or substantially all of the assets of the Company, or sale of exchange of our common stock or other securities, issuance of warrants or other rights to purchase common stock, or any other corporate transaction or event affecting the common stock that would require adjustments to the 2020 Plan or any awards under the 2020 Plan in order to prevent the dilution or enlargement of the potential benefits intended to be made available thereunder, the administrator will make appropriate, proportionate adjustments to: (i) the aggregate number and kind of shares with respect to which awards may be granted or awarded under the 2020 Plan; (ii) the number and kind of shares subject to outstanding awards and terms and conditions of outstanding awards (including, without limitation, any applicable performance targets or criteria with respect to such awards); and (iii) the grant or exercise price per share of any outstanding awards under the 2020 Plan.

In the event of any transaction or event described above (including any change in control), the administrator may make appropriate adjustments to awards under the 2020 Plan and is authorized to provide for the acceleration, cash-out, termination, assumption, substitution or conversion of such awards in the event of a change in control or certain other unusual or nonrecurring events or transactions or to comply with changes in applicable laws or accounting principles.

Amendment; Termination. Our board of directors may amend or terminate the 2020 Plan or any portion thereof at any time; an amendment of the 2020 Plan shall be subject to the approval of our stockholders only to the extent required by applicable laws. As described above, the 2020 Plan will terminate when the 2023 Plan is effective. No awards may be granted under our 2020 Plan after it is terminated.

Blackthorn Therapeutics, Inc. 2015 Equity Incentive Plan

We previously had assumed the 2015 Plan as part of a transaction involving the acquisition of BlackThorn Therapeutics, Inc. in 2020. We have previously granted stock options to Mr. Berns under the 2015 Plan, as described in more detail below. The principal purpose of the 2015 Plan is to enhance our ability to attract, retain and motivate persons who make (or are expected to make) important contributions to us by providing them with equity ownership opportunities.

The 2015 Plan was suspended in connection with the closing of the acquisition of BlackThorn in September 2020, and we will not make any further grants under the 2015 Plan. However, the 2015 Plan will continue to govern the terms and conditions of the outstanding awards granted under the 2015 Plan which, as of the date of this prospectus, constitute 185,562 outstanding stock options and zero restricted stock awards.

Eligibility. The 2015 Plan provides for the grant of non-qualified options, restricted stock, restricted stock units or other stock-based awards to employees, non-employee members of the board of directors and consultants. The 2015 Plan provides for the grant of ISOs to employees.

Share Reserve. We have reserved an aggregate of 264,614 shares of our common stock for issuance under the 2015 Plan. As of December 31, 2022, options to purchase a total of 201,908 shares of our common stock were issued and outstanding, a total of 18,864 shares of common stock had been issued upon the exercise of options or pursuant to other awards granted under the 2015 Plan. As described above, the 2015 Plan was suspended in connection with the closing of the acquisition of BlackThorn in September 2020, and we will not make any further grants under the 2015 Plan.

Administration. Our board of directors or a committee appointed by our board of directors administers the 2015 Plan. The administrator has the authority to select the service providers to whom equity awards will be granted under the 2015 Plan, the number of shares to be subject to those awards under the 2015 Plan, and the terms and conditions of the awards granted. In addition, the administrator has the authority to construe and interpret the 2015 Plan and to adopt rules for the administration, interpretation and application of the 2015 Plan that are consistent with the terms of the 2015 Plan.

Awards. The 2015 Plan provides that the administrator may grant or issue stock options, restricted stock, restricted stock units or stock awards, or any combination thereof. Each award will be set forth in a separate agreement with the person receiving the award and will indicate the type, terms and conditions of the award.

- NSOs will provide for the right to purchase shares of our common stock at a specified price which shall be not less than fair market value on the date of grant, and usually will become exercisable (at the discretion of the administrator) in one or more installments after the grant date, subject to the participant’s continued employment or service with us. NSOs may be granted for any term specified by the administrator, but in no event more than 10 years after they are granted.
- ISOs will be designed in a manner intended to comply with the provisions of Section 422 of the Code, and will be subject to specified restrictions contained in the Code. Among such restrictions, ISOs must have an exercise price of not less than the fair market value of a share of common stock on the date of grant (or 110% for an individual who owns (or is deemed to own) more than 10% of the total combined voting power of all classes of our capital stock), may only be granted to employees, and must not be exercisable after a period of ten years measured from the date of grant (or five years for an individual who owns (or is deemed to own) more than 10% of the total combined voting power of all classes of our capital stock).
- Restricted Stock may be granted to any eligible individual and made subject to such restrictions as may be determined by the administrator, including whether there is any purchase price. Restricted stock, typically, may be forfeited for no consideration or repurchased by us at the original purchase price if the conditions or restrictions on vesting are not met. In general, restricted stock may not be sold or otherwise transferred until restrictions are removed or expire. Recipients of restricted stock awards will generally have rights equivalent to those of a stockholder with respect to such shares upon grant without regard to vesting.
- Restricted stock units are units representing an amount equal to the fair market value of one share of our common stock. The administrator determines the terms and conditions of restricted stock units including the vesting criteria, which may include accomplishing specified performance criteria or continued service to us, and the form and timing of payment. Notwithstanding the foregoing, the administrator, in its sole discretion may accelerate the time at which any restrictions will lapse or be removed.
- Stock Awards are awards of shares of our common stock and other awards valued wholly or partially by referring to, or otherwise based on, shares of our common stock. Stock awards may be granted to participants as standalone payments and as payment in lieu of base salary, bonus, fees or other cash compensation otherwise payable to any individual who is eligible to receive awards. The plan administrator will determine the terms and conditions of stock awards.

Transfer. A participant may not transfer stock awards under our 2015 Plan other than by will, the laws of descent and distribution, or as otherwise provided under our 2015 Plan.

Certain Events. In the event of any dividend or other distribution, reorganization, merger, consolidation, combination, repurchase, recapitalization, liquidation, dissolution, or sale, transfer, exchange or other disposition of all or substantially all of the assets of the Company, or sale of exchange of our common stock or other securities, issuance of warrants or other rights to purchase common stock, or any other corporate transaction or event affecting the common stock that would require adjustments to the 2015 Plan or any awards under the 2015 Plan in order to prevent the dilution or enlargement of the potential benefits intended to be made available thereunder, the administrator will make appropriate, proportionate adjustments to: (i) the aggregate number and kind of shares with respect to which awards may be granted or awarded under the 2015 Plan; (ii) the number and kind of shares subject to outstanding awards and terms and conditions of outstanding awards (including, without limitation, any applicable performance targets or criteria with respect to such awards); and (iii) the grant or exercise price per share of any outstanding awards under the 2015 Plan.

In the event of any transaction or event described above (including any change in control), the administrator may make appropriate adjustments to awards under the 2015 Plan and is authorized to provide for the acceleration, cash-out, termination, assumption, substitution or conversion of such awards in the event of a change in control or certain other unusual or nonrecurring events or transactions or to comply with changes in applicable laws or accounting principles. In the event a change in control occurs and the successor corporation refuses to assume or substitute for outstanding awards under the 2015 Plan, then the vesting of such awards (if held by a current service provider) will be fully accelerated immediately prior to the closing of such change in control, and such awards will terminate upon expiration of such period in exchange for a cash payment similar to holders of common stock in the transaction determined by reference to the number of shares subject to such awards and net of any applicable exercise price.

Amendment; Termination. Our board of directors has the authority to amend, suspend or terminate our 2015 Plan, provided that such action is approved by our stockholders to the extent stockholder approval is necessary. As described above, our 2015 Plan was suspended in connection with the closing of the acquisition of BlackThorn in September 2020.

2023 Employee Stock Purchase Plan

We have adopted the ESPP, which will be effective upon the day prior to the first public trading date of our common stock. The ESPP is designed to allow our eligible employees to purchase shares of our common stock, at semi-annual intervals, with their accumulated payroll deductions. The ESPP is intended to qualify under Section 423 of the Code. The material terms of the ESPP, as it is currently contemplated, are summarized below.

Components. The ESPP is comprised of two distinct components in order to provide increased flexibility to grant options to purchase shares under the ESPP to U.S. and to non-U.S. employees. Specifically, the ESPP authorizes (1) the grant of options to U.S. employees that are intended to qualify for favorable U.S. federal tax treatment under Section 423 of the Code, (the Section 423 Component), and (2) the grant of options that are not intended to be tax-qualified under Section 423 of the Code to facilitate participation for employees located outside of the United States who do not benefit from favorable U.S. tax treatment and to provide flexibility to comply with non-U.S. law and other considerations (the Non-Section 423 Component). Where possible under local law and custom, we expect that the Non-Section 423 Component generally will be operated and administered on terms and conditions similar to the Section 423 Component.

Administration. Subject to the terms and conditions of the ESPP, our compensation committee will administer the ESPP. Our compensation committee can delegate administrative tasks under the ESPP to the services of an agent and/or employees to assist in the administration of the ESPP. The administrator will have the discretionary authority to administer and interpret the ESPP. Interpretations and constructions of the administrator of any provision of the ESPP or of any rights thereunder will be conclusive and binding on all persons. We will bear all expenses and liabilities incurred by the ESPP administrator.

Share Reserve. The maximum number of shares of our common stock which will be authorized for sale under the ESPP is equal to the sum of (a) 1% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) and (b) an annual increase on each January 1 beginning in 2024 and ending in 2033, equal to the lesser of (i) 1% of the shares of our common stock outstanding (on an as converted basis) on the immediately preceding December 31 and (ii) such number of shares of common stock as determined by our board of directors; provided, however, that no more than an amount of shares equal to 13.75% of our outstanding common stock after this offering (without giving effect to the underwriters option to purchase additional shares in this offering) may be issued under the ESPP. The shares reserved for issuance under the ESPP may be authorized but unissued shares or reacquired shares.

Eligibility. Employees eligible to participate in the ESPP for a given offering period generally include employees who are employed by us or one of our subsidiaries on the first day of the offering period, or the enrollment date. Our employees (and, if applicable, any employees of our subsidiaries) who customarily work less than five months in a calendar year or are customarily scheduled to work less than 20 hours per week will not be eligible to participate in the ESPP. Finally, an employee who owns (or is deemed to own through attribution) 5% or more of the combined voting power or value of all our classes of stock or of one of our subsidiaries will not be allowed to participate in the ESPP.

Participation. Employees will enroll under the ESPP by completing a payroll deduction form permitting the deduction from their compensation of at least 1% of their compensation but not more than 15% of their compensation. Such payroll deductions shall be expressed as a whole number percentage, and the accumulated deductions will be applied to the purchase of shares on each purchase date. However, a participant may not purchase more than 100,000 shares in each offering period and may not subscribe for more than $25,000 in fair market value of shares of our common stock (determined at the time the option is granted) during any calendar year. The ESPP administrator has the authority to change these limitations for any subsequent offering period.

Offering. Under the ESPP, participants are offered the option to purchase shares of our common stock at a discount during a series of successive offering periods, the duration and timing of which will be determined by the ESPP administrator. However, in no event may an offering period be longer than 27 months in length.

The option purchase price will be the lower of 85% of the closing trading price per share of our common stock on the first trading date of an offering period in which a participant is enrolled or 85% of the closing trading price per share on the purchase date, which will occur on the last trading day of each offering period.

Unless a participant has previously canceled his or her participation in the ESPP before the purchase date, the participant will be deemed to have exercised his or her option in full as of each purchase date. Upon exercise, the participant will purchase the number of whole shares that his or her accumulated payroll deductions will buy at the option purchase price, subject to the participation limitations listed above.

A participant may cancel his or her payroll deduction authorization at any time prior to the end of the offering period. Upon cancellation, the participant will have the option to either (i) receive a refund of the participant’s account balance in cash without interest or (ii) exercise the participant’s option for the current offering period for the maximum number of shares of common stock on the applicable purchase date, with the remaining account balance refunded in cash without interest. Following at least one payroll deduction, a participant may also decrease (but not increase) his or her payroll deduction authorization once during any offering period. If a participant wants to increase or decrease the rate of payroll withholding, he or she may do so effective for the next offering period by submitting a new form before the offering period for which such change is to be effective.

A participant may not assign, transfer, pledge or otherwise dispose of (other than by will or the laws of descent and distribution) payroll deductions credited to a participant’s account or any rights to exercise an option or to receive shares of our common stock under the ESPP, and during a participant’s lifetime, options in the ESPP shall be exercisable only by such participant. Any such attempt at assignment, transfer, pledge or other disposition will not be given effect.

Adjustments upon Changes in Recapitalization, Dissolution, Liquidation, Merger or Asset Sale. In the event of any increase or decrease in the number of issued shares of our common stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the common stock, or any other increase or decrease in the number of shares of common stock effected without receipt of consideration by us, we will proportionately adjust the aggregate number of shares of our common stock offered under the ESPP, the number and price of shares which any participant has elected to purchase under the ESPP and the maximum number of shares which a participant may elect to purchase in any single offering period. If there is a proposal to dissolve or liquidate us, then the ESPP will terminate immediately prior to the consummation of such proposed dissolution or liquidation, and any offering period then in progress will be shortened by setting a new purchase date to take place before the date of our dissolution or liquidation. We will notify each participant of such change in writing at least ten business days prior to the new exercise date. If we undergo a merger with or into another corporation or sell all or substantially all of our assets, each outstanding option will be assumed or an equivalent option substituted by the successor corporation or the parent or subsidiary of the successor corporation. If the successor corporation refuses to assume the outstanding options or substitute equivalent options, then any offering period then in progress will be shortened by setting a new purchase date to take place before the date of our proposed sale or merger. We will notify each participant of such change in writing at least ten business days prior to the new exercise date.

Amendment and Termination. Our board of directors may amend, suspend or terminate the ESPP at any time. However, the board of directors may not amend the ESPP without obtaining stockholder approval within 12 months before or after such amendment to the extent required by applicable laws.

CERTAIN RELATIONSHIPS AND RELATED-PARTY TRANSACTIONS

The following includes a summary of transactions since January 1, 2020 and any currently proposed transactions, to which we were or are to be a participant, in which (i) the amount involved exceeded or will exceed $120,000; and (ii) any of our directors, executive officers or holders of more than 5% of our capital stock, or any affiliate or member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest, other than compensation and other arrangements that are described under the sections titled "Director Compensation" and "Executive Compensation."

We believe the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that we would pay or receive, as applicable, in arm's-length transactions.

Acquisitions

BlackThorn Therapeutics, Inc.

In connection with our acquisition of BlackThorn in September 2020, we issued (i) an aggregate of 5,757,901 shares of our Series A-1 convertible preferred stock (the Series A-1 Preferred), with an acquisition date fair value of $36.6 million and (ii) warrants to purchase 292,193 shares of the Series A-1 Preferred, with an acquisition date fair value of $0.7 million (the Preferred Stock Warrants). The Preferred Stock Warrants expire on the earlier of (i) December 31, 2021, (ii) immediately prior to the consummation of this offering and (iii) upon the closing of a deemed liquidation event. In addition, the former BlackThorn stockholders are entitled to contingent consideration (i) with respect to navacaprant, in the form of development and regulatory approval milestones of up to an aggregate amount of $365.0 million, which includes a milestone payment of $90.0 million that will become due upon dosing the first patient in the Phase 3 clinical trial for navacaprant, which we expect to pay by issuing an amount of our common stock equal to $90.0 million in the second half of 2023, and sales-based milestones of up to an aggregate amount of $450.0 million and (ii) with respect to NMRA-511, in the form of development and regulatory approval milestones of up to an aggregate amount of $100.0 million and sales-based milestones of up to an aggregate amount of $100.0 million. Certain of BlackThorn's investors, funds affiliated with ARCH Venture Partners, and one of its board members, Kristina Burow, at the time of the acquisition are related parties of the Company. In addition, our Co-Founder and Executive Chairman, Paul L. Berns, served as Executive Chairman of BlackThorn at the time of the acquisition. For further detail, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Recent Acquisitions of Assets—BlackThorn Therapeutics, Inc."

In December 2021, we amended the expiration date of the Preferred Stock Warrants to the earlier of: (i) December 31, 2022, (ii) immediately prior to the consummation of an IPO of our common stock, and (iii) upon the closing of a deemed liquidation event.

The Preferred Stock Warrants expired on December 31, 2022. In December 2022, prior to their expiration, an entity affiliated with ARCH Venture Partners exercised the Preferred Stock Warrants for a total of 104,563 shares of Series A-1 Preferred.

Alairion, Inc.

In connection with our acquisition of Alairion in November 2020, Biomatics Capital Partners II L.P., an existing stockholder of both us and Alairion, purchased a total of $12.0 million of Alairion convertible notes immediately prior to the closing date that were settled with 1,529,383 shares of our Series A-2 convertible preferred stock upon closing.

Common Stock Issuance

In January 2020, we entered into a stock subscription agreement pursuant to which we issued 6,372,430 shares of our common stock at a price of $0.001 per share to each of ARCH Venture Fund X, L.P. (ARCH X) and ARCH Venture Fund X Overage, L.P. (ARCH X Overage), for an aggregate of 12,744,860 shares of common stock issued. In August 2020, we repurchased 1,062,071 shares of common stock at a price of $0.001 per share from each of ARCH X and ARCH X Overage, for an aggregate of 2,124,143 shares of common stock repurchased. The repurchased shares of common stock were cancelled and retired. Kristina Burow and Robert Nelsen, members of our board of directors at the time, were designated to our board by ARCH Venture Partners, a holder of more than 5% of our capital stock. For further details, see the information provided in footnote (2) to the table in the section titled "Principal Stockholders."

Convertible Note and Convertible Preferred Stock Financings

Convertible Note Purchase Agreement

Between February and September 2020, we issued $55.9 million in convertible promissory notes (the 2020 Bridge Notes), $30.0 million of which notes were issued to ARCH X and ARCH X Overage. In September 2020, the 2020 Bridge Notes were settled with shares of our Series A-2 convertible preferred stock.

Series A-2 Convertible Preferred Stock Financing

In September 2020, we entered into a Series A-2 convertible preferred stock purchase agreement (Series A-2 Purchase Agreement), with various investors, pursuant to which we issued an aggregate of 15,755,181 shares of our Series A-2 convertible preferred stock (the Series A-2 Preferred) at $7.85 per share for aggregate proceeds of $123.6 million in the initial closing. Upon the initial closing, the right of forfeiture for 5,608,800 shares of our common stock issued with the 2020 Bridge Notes lapsed.

In accordance with the terms of the Series A-2 Purchase Agreement, we also committed to selling 5,097,944 additional shares of Series A-2 Preferred to ARCH X, ARCH X Overage and their affiliates at a fixed price of $7.85 per share in one or more subsequent closings on or before March 8, 2021.

Further, pursuant to the Series A-2 Purchase Agreement, a forfeiture provision was added to the terms of 4,248,286 shares of our common stock previously issued in January 2020 to ARCH X, ARCH X Overage and their affiliates, of which 1,699,314 remain subject to a forfeiture provision as of December 31, 2020.

Between March and July 2021, we and certain investors entered into a series of amendments to the Series A-2 Purchase Agreement to extend the deadline to complete subsequent closings of our Series A-2 Preferred financing from March 2021 to September 2021. In August 2021, pursuant to the Series A-2 Purchase Agreement, as amended, we issued 5,097,944 shares of Series A-2 Preferred to ARCH X and ARCH X Overage and 1,274,486 shares of Series A-2 Preferred to F-Prime Capital Partners Life Sciences Fund VII LP, an entity affiliated with F-Prime Capital Partners, at $7.85 per share for aggregate proceeds from these parties of $50.0 million.

The table below sets forth the number of shares of our common stock, Series A-1 Preferred and Series A-2 Preferred purchased by our executive officers, directors, holders of more than 5% of our capital stock and their affiliated entities or immediate family members or issued to such parties as consideration in connection with various acquisitions of assets. Each share of Series A-1 Preferred and Series A-2 Preferred in the table below will convert into one share of our common stock upon the completion of this offering.

Name	Common Stock (#)	Series A-1 Convertible Preferred Stock (#)	Series A-2 Convertible Preferred Stock (#)	Aggregate Purchase Price ($)
Amgen Inc.[1]	—	—	32,754,291	257,000,000
Entities affiliated with ARCH Venture Partners[2]	10,620,716	1,829,140[3]	10,620,716	119,232,389
Entities affiliated with Biomatics Capital Partners	1,656,831	533,567[4]	5,671,461	48,664,035
Entities affiliated with F-Prime Capital Partners[5]	1,911,729	—	3,627,659	28,463,722
SVF II AIV (DE) LLC.	—	—	7,646,916	60,000,000
Kristina Burow.	—	13,620	—	106,873

(1) Kári Stefánsson, a member of our board of directors, was designated to our board by Amgen Inc. For further details, see the information provided in footnote (1) to the table in the section titled “Principal Stockholders.” Dr. Stefánsson resigned as a director in September 2023.
(2) Kristina Burow and Robert Nelsen were designated to our board by ARCH Venture Partners. Kristina Burow is a member of our board of directors, and Robert Nelsen served as a member of our board of directors at the time of the Series A-2 Convertible Preferred Stock Financing. In addition, our Co-Founder and Executive Chairman, Paul L. Berns, is a Managing Director of ARCH Venture Partners. For further details, see the information provided in footnote (2) to the table in the section titled “Principal Stockholders.”
(3) Includes 104,563 shares of Series A-1 Preferred issued upon the exercise of warrants in December 2022.
(4) Includes 2,867 shares of Series A-1 Preferred issued upon the exercise of warrants in December 2022.
(5) Stacie Weninger, Ph.D., served as a member of our board of directors at the time of the Series A-2 Convertible Preferred Stock Financing and, was designated to our board by F-Prime Capital Partners. Dr. Weninger resigned as a director in August 2023.

Series B Convertible Preferred Stock Financing

In September 2022, we entered into a Series B convertible preferred stock purchase agreement (Series B Purchase Agreement) with various investors, pursuant to which we issued an aggregate of 7,425,572 shares of our Series B convertible preferred stock (the Series B Preferred) at $11.77 per share for aggregate proceeds of $87.4 million in the initial closing.

In accordance with the terms of the Series B Purchase Agreement, we issued an additional 2,124,143 shares of Series B Preferred to Sapphire Direct Holdings RSC Ltd. at a fixed price of $11.77 per share for aggregate proceeds of $25.0 million in a subsequent closing in October 2022.

The table below sets forth the number of shares of our Series B Preferred purchased by our executive officers, directors, holders of more than 5% of our capital stock and their affiliated entities or immediate family members or issued to such parties as consideration in connection with various acquisitions of assets. Each share of Series B Preferred in the table below will convert into one share of our common stock upon the completion of this offering.

Name	Series B Convertible Preferred Stock (#)	Aggregate Purchase Price ($)
Amgen Inc.	849,657	$ 10,000,000.50
Entities affiliated with ARCH Venture Partners(1)	2,124,143	$ 25,000,000.50
Entities affiliated with F-Prime Capital Partners(2)	84,965	$ 1,000,000.50

(1) Kristina Burow and Robert Nelsen were designated to our board by ARCH Venture Partners. Kristina Burow is a member of our board of directors, and Robert Nelsen served as a member of our board of directors at the time of the Series B Convertible Preferred Stock Financing. In addition, our Co-Founder and Executive Chairman, Paul L. Berns, is a Managing Director of ARCH Venture Partners. For further details, see the information provided in footnote (2) to the table in the section titled “Principal Stockholders.”
(2) Stacie Weninger, Ph.D., served as a member of our board of directors at the time of the Series B Convertible Preferred Stock Financing and, was designated to our board by F-Prime Capital Partners. Dr. Weninger resigned as a director in August 2023.

Amgen Agreements

Amgen Inc., one of our greater than 5% stockholders, is party to two license agreements and a research and collaboration agreement with us as described above under “Business—In-Licensing and Collaboration Agreements—Exclusive License Agreements with Amgen for CK1d and GCase” and “Business—In-Licensing and Collaboration Agreements—Research Collaboration Agreement with Amgen”. As of June 30, 2023, we have made seven quarterly payments to Amgen in an amount of $6.3 million each under the Amgen Collaboration Agreement. The eighth non-refundable quarterly payment of $6.3 million became due as of June 30, 2023.

Further, subject to certain conditions, Amgen is also obligated to provide us additional financing of up to $100.0 million. This obligation will terminate upon the completion of this offering.

Amgen also has the right to designate one member to be elected to our board of directors pursuant to our voting agreement, as described below under "—Voting Agreement".

Investors' Rights Agreement

We are party to an investors' rights agreement with the purchasers of our outstanding convertible preferred stock, including entities with which certain of our directors are affiliated. Following the consummation of this offering, the holders of approximately 123.8 million shares of our common stock, including the shares of common stock issuable upon the conversion of our convertible preferred stock, are entitled to rights with respect to the registration of their shares under the Securities Act. For a more detailed description of these registration rights, see the section titled "Description of Capital Stock—Registration Rights." The investors' rights agreement also provides for a right of first offer in favor of certain holders of convertible preferred stock with regard to certain issuances of our capital stock. The rights of first offer will not apply to, and will terminate upon the consummation of, this offering.

Voting Agreement

We are party to a voting agreement with certain holders of our common stock and convertible preferred stock. Pursuant to the voting agreement, as amended, ARCH Venture Fund X, L.P. and ARCH Venture Fund X Overage, L.P., collectively, have the right to designate two members to be elected to our board of directors. In addition, Amgen has the right to designate one member to be elected to our board of directors. Upon the conversion of all outstanding shares of convertible preferred stock into common stock in connection with the consummation of this offering, the voting agreement will terminate. For a description of the voting agreement, see the section titled "Management—Board Structure and Composition—Voting Arrangements."

Right of First Refusal and Co-Sale Agreement

We are party an amended and restated right of first refusal and co-sale agreement with certain holders of our common stock and convertible preferred stock. This agreement provides for rights of first refusal and co-sale relating to the shares of our common stock held by the parties to the agreement. Upon the consummation of this offering, the amended and restated right of first refusal and co-sale agreement will terminate.

Other Transactions

We have entered into offer letter agreements with our executive officers that, among other things, provide for certain compensatory and change in control benefits, as well as severance benefits. For a description of these agreements with our named executive officers, see the subsection titled "Executive Compensation—Executive Compensation Arrangements."

We have also granted stock options and restricted stock to our executive officers and certain of our directors. For a description of these equity awards, see the sections titled "Executive Compensation" and "Director Compensation."

Director and Officer Indemnification

We have entered into indemnification agreements with certain of our current executive officers and directors, and intend to enter into new indemnification agreements with each of our current executive officers and directors before the completion of this offering.

Our amended and restated certificate of incorporation also provides that, to the fullest extent permitted by law, we will indemnify any officer or director of our company against all damages, claims, and liabilities arising out of the fact that the person is or was our officer or director, or served any other enterprise at our request as an officer or director. Amending this provision will not reduce our indemnification obligations relating to actions taken before an amendment.

Related Person Transaction Policy

We have a written related-person transaction policy, to be effective upon the closing of this offering, that applies to our executive officers, directors, director nominees, holders of more than five percent of any class of our voting securities and any member of the immediate family of, and any entity affiliated with, any of the foregoing persons. Such persons will not be permitted to enter into a related person transaction with us without the prior consent of our audit committee, or other independent members of our board of directors in the event it is inappropriate for our audit committee to review such transaction due to a conflict of interest. Any request for us to enter into a transaction with an executive officer, director, director nominee, principal stockholder, or any of their immediate family members or affiliates, in which the amount involved exceeds $120,000 must first be presented to our audit committee for review, consideration, and approval. In approving or rejecting any such proposal, our audit committee will consider the relevant facts and circumstances available and deemed relevant to our audit committee, including, but not limited to, the commercial reasonableness of the terms of the transaction and the materiality and character of the related person’s direct or indirect interest in the transaction. All of the transactions described in this section occurred prior to the adoption of this policy.

PRINCIPAL STOCKHOLDERS

The following table sets forth information regarding beneficial ownership of our common stock as of September 8, 2023 by:

- each person whom we know to beneficially own more than 5% of our common stock;
- each of our directors;
- each of our named executive officers; and
- all directors and executive officers as a group.

In accordance with the rules of the SEC, beneficial ownership includes voting or investment power with respect to securities and includes the shares issuable pursuant to stock options that are exercisable within 60 days of September 8, 2023. Shares issuable pursuant to stock options are deemed outstanding for computing the percentage of the person holding such options but are not outstanding for computing the percentage of any other person.

We have based our calculation of the percentage of beneficial ownership prior to this offering on 137,798,937 shares of our common stock outstanding and held of record by approximately 198 stockholders as of September 8, 2023, which reflects (i) the filing and effectiveness of our amended and restated certificate of incorporation; and (ii) the conversion of shares of all outstanding convertible preferred stock into shares of our common stock, as if such filing and effectiveness and conversion had taken place as of September 8, 2023. We have based our calculation of the percentage of beneficial ownership after this offering on 152,508,937 shares of our common stock outstanding as of September 8, 2023, which reflects the adjustments described in the prior sentence and further reflects the issuance of 14,710,000 shares of common stock in this offering, assuming that the underwriters will not exercise their option to purchase up to an additional 2,206,500 shares of our common stock.

Unless otherwise indicated, the address for each listed stockholder is: c/o Neumora Therapeutics, Inc., 490 Arsenal Way, Suite 200, Watertown, Massachusetts 02472. To our knowledge, except as indicated in the footnotes to this table and pursuant to applicable community property laws, the persons named in the table have sole voting and investment power with respect to all shares of common stock.

		Percentage of Shares	
Name	**Number of Shares Beneficially owned (#)**	**Before Offering (%)**	**After Offering (%)**
5% or Greater Beneficial Owners:			
Amgen Inc.[1]	33,603,948	24.4%	22.0%
Entities affiliated with ARCH Venture Partners [2]	28,045,420	20.4%	18.4%
Entities affiliated with Biomatics Capital Partners[3]	7,861,859	5.7%	5.2%
Entities affiliated with SoftBank[4]	7,646,916	5.5%	5.0%
Named Executive Officers and Directors:			
Henry O. Gosebruch[5]	509,793	*	*
Paul L. Berns[6]	7,953,082	5.8%	5.2%
Joshua Pinto, Ph.D.[7]	647,816	*	*
John Dunlop, Ph.D.[8]	649,454	*	*
Kristina Burow[9]	26,229,900	19.0%	17.2%
Matthew Fust[10]	102,064	*	*
Alaa Halawa	—	*	*
Maykin Ho, Ph.D.[11]	79,655	*	*
David Piacquad	—	*	*
All executive officers and directors as a group (11 persons)[12]	36,694,561	26.4%	23.9%

* less than 1.0%.

(1) Consists of (i) 32,754,291 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock and (ii) 849,657 shares of common stock issuable upon the conversion of Series B convertible preferred stock. Investment and voting decisions for Amgen Inc. are made by an investment committee comprised of three or more individuals, and therefore no individual is the beneficial owner of the shares held by Amgen Inc. The address of Amgen Inc. is One Amgen Center Drive, Thousand Oaks, California 91320.

(2) Consists of (i) 5,310,358 shares of common stock held by ARCH Venture Fund X, L.P. (ARCH X), (ii) 6,895,021 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock held by ARCH X, (iii) 5,310,358 shares of common stock held by ARCH Venture Fund X Overage, L.P. (ARCH X Overage), (iv) 6,576,400 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock held by ARCH X Overage, (v) 684,167 shares of common stock issuable upon the conversion of Series A-1 convertible preferred stock held by ARCH Venture Fund VII, L.P. (ARCH VII), (vi) 1,144,973 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock held by ARCH Venture Fund VIII Overage, L.P. (ARCH VIII Overage) and (vii) 2,124,143 shares of common stock issuable upon the conversion of Series B convertible preferred stock held by ARCH Venture Fund XII, L.P. (ARCH XII). ARCH Venture Partners X, L.P. (AVP X LP) is the sole general partner of ARCH X. ARCH Venture Partners X Overage, L.P. (AVP X Overage LP) is the sole general partner of ARCH X Overage. ARCH Venture Partners XII, L.P. (AVP XII LP) is the general partner of ARCH XII. ARCH Venture Partners X, LLC (AVP X LLC) is the sole general partner of each of AVP X LP and AVP X Overage LP. ARCH Venture Partners VII, L.P. (AVP VII LP) is the sole general partner of ARCH VII, and ARCH Venture Partners VII, LLC (AVP VII LLC) is the sole general partner of AVP VII LP. ARCH Venture Partners VIII, LLC (AVP VIII LLC) is the general partner of ARCH VIII Overage. ARCH Venture Partners XII, LLC (AVP XII LLC) is the general partner of AVP XII LP. Keith Crandell, Kristina Burow, Steven Gillis and Robert Nelsen comprise the investment committee of AVP X LLC (the AVP X Committee Members). AVP X LLC may be deemed to beneficially own the shares held by ARCH X and ARCH X Overage, and each of the AVP X Committee Members may be deemed to share the power to direct the disposition and vote of the shares held by ARCH X and ARCH X Overage. Clinton Bybee, Keith Crandell and Robert Nelsen are the managing directors of AVP VII LLC (AVP VII LLC Managing Directors). AVP VII LLC may be deemed to beneficially own the shares held by ARCH VII, and each of the AVP VII LLC Managing Directors may be deemed to share the power to direct the disposition and vote of the shares held by ARCH VII. Clinton Bybee, Keith Crandell and Robert Nelsen are the managing directors of AVP VIII LLC (the AVP VIII LLC Managing Directors). AVP VIII LLC may be deemed to beneficially own the shares held by ARCH VIII Overage, and each of the AVP VIII LLC Managing Directors may be deemed to share the power to direct the disposition and vote of the shares held by ARCH VIII Overage. Keith Crandell, Kristina Burow, Steven Gillis and Robert Nelsen comprise the investment committee of AVP XII LLC (the AVP XII LLC Committee Members). AVP XII LLC may be deemed to beneficially own the shares held by ARCH XII, and each of the AVP XII LLC Committee Members may be deemed to share the power to direct the disposition and vote of the shares held by ARCH XII. AVP X Committee Members, AVP VII LLC Managing Directors, AVP VIII LLC Managing Directors and AVP XII LLC Committee Members each disclaim beneficial ownership except to the extent of their pecuniary interest therein, if any. Further, Mr. Berns does not have dispositive control over any of the shares held beneficially by AVP X LLC, ARCH VII LLC, ARCH VIII LLC and AVP XII LLC. The address of ARCH Venture Partners is 8755 West Higgins Road, Suite 1025. Chicago, IL 60631.

(3) Consists of (i) 802,880 shares of common stock held by Biomatics Capital Partners, L.P. (Biomatics), (ii) 533,567 shares of common stock issuable upon the conversion of Series A-1 convertible preferred stock held by Biomatics, (iii) 2,071,039 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock held by Biomatics, (iv) 853,951 shares of common stock held by Biomatics Capital Partners II L.P. (Biomatics II, and together with Biomatics, Biomatics Capital Partners) and (v) 3,600,422 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock held by Biomatics II. Biomatics Capital Management, L.L.C. (Biomatics LLC) is the managing partner of Biomatics and Biomatics II. Julie Sunderland and Boris Nikolic are the general managers of Biomatics LLC (the Biomatics LLC Committee Members). Biomatics LLC may be deemed to beneficially own the shares held Biomatics and Biomatics II, and each of the Biomatics LLC Committee Members may be deemed to share the power to direct the disposition and vote of the shares held by Biomatics and Biomatics II. The Biomatics LLC Committee Members each disclaim beneficial ownership except to the extent of their pecuniary interest therein, if any. The address of Biomatics Capital Partners is 188 E. Blaine Street, Suite 126, Seattle, Washington 98102.

(4) Consists of 7,646,916 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock. The security holder of record is SVF II AIV (DE) LLC (SVF). SoftBank, which is a publicly traded company listed on the Tokyo Stock Exchange, is the sole shareholder of SB Global Advisers Limited (SBGA) has been appointed as manager and is responsible for making all decisions related to the acquisition, structuring, financing and disposal of SoftBank Vision Fund II-2 L.P.'s investments, including as held by SVF. SoftBank Vision Fund II-2 L.P. is the managing member of SVF II Aggregator (Jersey) LP, which is the sole member of SVF II Holdings (DE) LLC, which is the sole member of SVF II Investments Holdings LLC, which is the sole member of SVF II Investment Holdings (Subco)

LLC, which is the sole member of SVF. Alex Clavel, Yoshimitsu Goto, Navneet Govil, Timothy A. Mackey and Gyu Hak Moon are the directors of SBGA. As a result of these relationships, each of these entities and individuals may be deemed to share beneficial ownership of the securities referenced herein. The registered address for each of SVF, SVF II Holdings (DE) LLC, SVF II Investments Holdings LLC, and SVF II Investment Holdings (Subco) LLC is c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE 19808. The registered address of SoftBank Vision Fund II-2 L.P. and SVF II Aggregator (Jersey) LP is c/o Crestbridge Limited, 47 Esplanade, St. Helier, Jersey, JE1 0BD. The business address of SB Global Advisers Limited is 69 Grosvenor Street, London W1K 3JP, England, United Kingdom.

(5) Consists of (i) 382,345 shares of common stock held directly by Mr. Gosebruch, zero of which shares will be vested within 60 days of September 8, 2023 and 382,345 of which shares will continue to be subject to our repurchase right, and (ii) 127,448 shares of common stock held by the Lu Leng Felicia Chua Descendants 2012 Irrevocable Trust.

(6) Consists of (i) 7,646,916 shares of common stock held directly by Mr. Berns, 5,708,635 of which shares will be vested within 60 days of September 8, 2023 and 663,795 of which shares will continue to be subject to our repurchase right, and (ii) 306,166 shares issuable pursuant to stock options exercisable within 60 days of September 8, 2023.

(7) Consists of (i) 238,965 shares of common stock held directly by Dr. Pinto, and (ii) 408,851 shares issuable pursuant to stock options exercisable within 60 days of September 8, 2023.

(8) Consists of (i) 573,517 shares of common stock held directly by Dr. Dunlop, 520,415 of which shares will be vested within 60 days of September 8, 2023 and 53,102 of which shares will continue to be subject to our repurchase right, and (ii) 75,937 shares issuable pursuant to stock options exercisable within 60 days of September 8, 2023.

(9) Consists of (i) 13,620 shares of common stock and (ii) certain of the shares discussed in footnote (2). Ms. Burow is an AVP XII LLC Committee Member and an AVP X Committee Member and may be deemed to beneficially own the shares held by ARCH X, ARCH X Overage and ARCH XII, as discussed in footnote (2). Ms. Burow disclaims beneficial ownership of the shares discussed in footnote (2) except to the extent of her pecuniary interest therein, if any.

(10) Consists of 102,064 shares issuable pursuant to stock options exercisable within 60 days of September 8, 2023.

(11) Consists of 79,655 shares issuable pursuant to stock options exercisable within 60 days of September 8, 2023.

(12) Consists of (i) 13,620 shares of common stock issuable upon the conversion of Series A-1 convertible preferred stock, (ii) 13,471,421 shares of common stock issuable upon the conversion of Series A-2 convertible preferred stock, (iii) 2,124,143 shares of common stock issuable upon the conversion of Series B convertible preferred stock, (iv) 19,994,284 shares of common stock, 18,895,042 of which shares will be vested within 60 days of September 8, 2023, and 1,099,242 of which shares will continue to be subject to our repurchase right, and (v) 1,091,093 shares issuable pursuant to stock options exercisable within 60 days of September 8, 2023.

DESCRIPTION OF CAPITAL STOCK

The following summary describes our capital stock and the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, which will become effective immediately prior to the completion of this offering, the investors' rights agreement to which we and certain of our stockholders are parties and of the Delaware General Corporation Law. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws and investors' rights agreement, copies of which have been filed as exhibits to the registration statement of which this prospectus is part.

General

Upon the completion of this offering and the filing of our amended and restated certificate of incorporation, our authorized capital stock will consist of 700,000,000 shares of common stock, par value $0.0001 per share, and 50,000,000 shares of preferred stock, par value $0.0001 per share.

Common Stock

Outstanding Shares

As of June 30, 2023, we had 137,239,096 shares of common stock outstanding, held of record by 193 stockholders, assuming the conversion of all of our outstanding shares of convertible preferred stock into 104,417,415 shares of common stock immediately prior to the completion of this offering.

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors. In addition, the affirmative vote of holders of 66-2/3% of the voting power of all of the then outstanding voting stock will be required to take certain actions, including amending certain provisions of our amended and restated certificate of incorporation, including the provisions relating to amending our amended and restated bylaws, the classified board and director liability.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive dividends as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights, Preferences and Privileges

Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Preferred Stock

Upon the completion of this offering, all of our currently outstanding shares of convertible preferred stock will convert into common stock and we will not have any shares of preferred stock outstanding. Immediately prior to the completion of this offering, our amended and restated certificate of incorporation will be amended and restated to delete all references to such shares of convertible preferred stock. From and after the consummation of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to 50,000,000 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 our 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 consummation of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Stock Options

As of June 30, 2023, we had outstanding options to purchase an aggregate of 11,251,230 shares of our common stock, with a weighted-average exercise price of $4.69 per share. For additional information regarding terms of our equity incentive plans, see the section titled “Executive Compensation—Equity Compensation Plans.”

Registration Rights

Upon the completion of this offering and subject to the lock-up agreements entered into in connection with this offering and federal securities laws, certain holders of shares of our common stock, including those shares of our common stock that will be issued upon the conversion of our convertible preferred stock in connection with this offering, will initially be entitled to certain rights with respect to registration of such shares under the Securities Act. These shares are referred to as registrable securities. The holders of these registrable securities possess registration rights pursuant to the terms of our investors’ rights agreement and are described in additional detail below. The registration of shares of our common stock pursuant to the exercise of the registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective. We will pay the registration expenses, other than underwriting discounts, selling commissions and stock transfer taxes, of the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions and limitations, to limit the number of shares the holders may include. The demand, piggyback and Form S-3 registration rights described below will terminate upon the earliest of (i) with respect to each stockholder, such date, on or after the closing of this offering, on which all registrable shares held by such stockholder may immediately be sold during any 90-day period pursuant to Rule 144 of the Securities Act, or Rule 144 and (ii) the occurrence of a deemed liquidation event, as defined in our amended and restated certificate of incorporation, as currently in effect.

Demand Registration Rights

Upon the completion of this offering, holders of approximately 123.8 million shares of our common stock issuable upon conversion of outstanding convertible preferred stock will be entitled to certain demand registration rights. Beginning 180 days following the effectiveness of the registration statement of which this prospectus is a part, certain major investors holding, collectively, holding at least 40% of registrable securities may, on not more than two occasions, request that we register all or a portion of their shares, subject to certain specified exceptions. If any of these holders exercises its demand registration rights, then holders of approximately 104.4 milion shares of our common stock issuable upon the shares of our convertible preferred stock in connection with this offering will be entitled to register their shares, subject to specified conditions and limitations in the corresponding offering.

Piggyback Registration Rights

In connection with this offering, holders of approximately 123.8 million shares of our common stock issuable upon conversion of outstanding convertible preferred stock are entitled to their rights to notice of this offering and to include their shares of registrable securities in this offering. The requisite percentage of these stockholders are expected to waive all such stockholders' rights to notice of this offering and to include their shares of registrable securities in this offering. In the event that we propose to register any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of registrable securities will be entitled to certain "piggyback" registration rights allowing them to include their shares in such registration, subject to specified conditions and limitations.

S-3 Registration Rights

Upon the completion of this offering, the holders of approximately 123.8 million shares of our common stock issuable upon conversion of outstanding convertible preferred stock will initially be entitled to certain Form S-3 registration rights. Certain major investors holding at least 20% of registrable securities may, on not more than two registrations on Form S-3 within any 12-month period, request that we register all or a portion of their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to specified exceptions. Such request for registration on Form S-3 must cover securities with an aggregate offering price which equals or exceeds $5.0 million, net of selling expenses. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Election and Removal of Directors; Vacancies

The exact number of directors will be fixed from time to time by resolution of the board. Directors will be elected by a plurality of the votes of the shares of our capital stock present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

No director may be removed except for cause, and directors may be removed for cause only by an affirmative vote of shares representing not less than a majority of the shares then entitled to vote at an election of directors.

Any vacancy occurring on the board of directors and any newly created directorship may be filled only by a majority of the remaining directors in office.

Staggered Board

Upon the closing of this offering, our board of directors will be divided into three classes serving staggered three-year terms. Class I, Class II, and Class III directors will serve until our annual meetings of stockholders in 2024, 2025 and 2026, respectively. At each annual meeting of stockholders, directors will be elected to succeed the class of directors whose terms have expired. This classification of our board of directors could have the effect of increasing the length of time necessary to change the composition of a majority of the board of directors. In general, at least two annual meetings of stockholders will typically be necessary for stockholders to effect a change in a majority of the members of the board of directors.

Limitation on Action by Written Consent

Our amended and restated certificate of incorporation and our amended and restated bylaws provide that holders of our common stock will not be able to act by written consent without a meeting.

Stockholder Meetings

Our amended and restated certificate of incorporation and our amended and restated bylaws provide that special meetings of our stockholders may be called only by the chairman of the board, our chief executive officer (or president, in the absence of a chief executive officer) or a majority of the directors. Our amended and restated certificate of incorporation and our amended and restated bylaws specifically deny any power of any other person to call a special meeting.

Amendment of Certificate of Incorporation

The provisions of our amended and restated certificate of incorporation described under the subsections titled "—Election and Removal of Directors; Vacancies," "—Stockholder Meetings," "—Limitation on Action by Written Consent," "—Limitation of Liability of Directors and Officers," "—Common Stock—Voting Rights" and "—Forum Selection" and provisions relating to amendments to our amended and restated certificate of incorporation may be amended only by the affirmative vote of holders of at least 66-2/3% of the voting power of our outstanding shares of voting stock. The affirmative vote of holders of at least a majority of the voting power of our outstanding shares of stock will generally be required to amend other provisions of our amended and restated certificate of incorporation.

Amendment of Bylaws

Certain provisions of our amended and restated bylaws may generally be altered, amended, or repealed, and new bylaws may be adopted, with the affirmative vote of a majority of directors present at any regular or special meeting of the board of directors called for that purpose, provided that any alteration, amendment, or repeal of, or adoption of any bylaw inconsistent with specified provisions of the bylaws, including those related to special and annual meetings of stockholders, action of stockholders by written consent, nomination of directors, transfers of capital stock and dividends requires the affirmative vote of at least 66-2/3% of all directors in office at a meeting called for that purpose.

All other provisions of our amended and restated bylaws may generally be altered, amended, or repealed, and new bylaws may be adopted, with the affirmative vote of holders of 66-2/3 % of the voting power of our outstanding shares of voting stock.

Other Limitations on Stockholder Actions

Our amended and restated bylaws impose some procedural requirements on stockholders who wish to:

- make nominations in the election of directors;
- propose that a director be removed;
- propose any repeal or change in our amended and restated bylaws; or
- propose any other business to be brought before an annual or special meeting of stockholders.

Under these procedural requirements, in order to bring a proposal before a meeting of stockholders, a stockholder must deliver timely notice of a proposal pertaining to a proper subject for presentation at the meeting to our corporate secretary along with the following:

- a description of the business or nomination to be brought before the meeting and the reasons for conducting such business at the meeting;

- the stockholder's name and address;
- any material interest of the stockholder in the proposal;
- the number of shares beneficially owned by the stockholder and evidence of such ownership; and
- the names and addresses of all persons with whom the stockholder is acting in concert and a description of all arrangements and understandings with those persons, and the number of shares such persons beneficially own.

To be timely, a stockholder must generally deliver notice:

- in connection with an annual meeting of stockholders, not less than 120 nor more than 150 days prior to the date on which the annual meeting of stockholders was held in the immediately preceding year, but in the event that the date of the annual meeting is more than 30 days before or more than 70 days after the anniversary date of the preceding annual meeting of stockholders, a stockholder notice will be timely if received by us not later than the close of business on the later of (i) not less than 70 nor more than 120 days prior to the date of the annual meeting and (ii) the 10th day following the day on which we first publicly announce the date of the annual meeting; or
- in connection with the election of a director at a special meeting of stockholders, during the period not less than 120 nor more than 150 days prior to the date of the special meeting, or the 10th day following the day on which a notice of the date of the special meeting was mailed to the stockholders or the public disclosure of that date was made.

In order to submit a nomination for our board of directors, a stockholder must also submit all information with respect to the nominee that would be required to be included in a proxy statement, as well as other information. If a stockholder fails to follow the required procedures, the stockholder's proposal or nominee will be ineligible and will not be voted on by our stockholders.

Limitation of Liability of Directors and Officers

Our amended and restated certificate of incorporation provides that no director will be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director, except as required by applicable law, as in effect from time to time. Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to our company or our stockholders;
- any act or omission not in good faith or which involved intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; and
- any transaction from which the director derived an improper personal benefit.

As a result, neither we nor our stockholders have the right, through stockholders' derivative suits on our behalf, to recover monetary damages against a director for breach of fiduciary duty as a director, including breaches resulting from grossly negligent behavior, except in the situations described above.

Our amended and restated certificate of incorporation also provides that, to the fullest extent permitted by law, we will indemnify any officer or director of our company against all damages, claims, and liabilities arising out of the fact that the person is or was our director or officer, or served any other enterprise at our request as a director or officer. Amending this provision will not reduce our indemnification obligations relating to actions taken before an amendment.

Forum Selection

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on behalf of us; (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer, or other employee of our company to us or our stockholders; (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or our amended and restated certificate of incorporation and our amended and restated bylaws; or (iv) any action asserting a claim governed by the internal affairs doctrine. This provision would not apply to claims brought to enforce a duty or liability created by the Securities Exchange Act of 1934, as amended, or any other claim for which the federal courts have exclusive jurisdiction.

Furthermore, our amended and restated certificate of incorporation will also 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 exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended. Any person or entity purchasing or otherwise acquiring any interest in our shares of capital stock shall be deemed to have notice of and consented to the foregoing forum selection provisions.

Our exclusive forum provision will not relieve us of our duties to comply with the federal securities laws and the rules and regulations thereunder, and our stockholders will not be deemed to have waived our compliance with these laws, rules and regulations.

The enforceability of similar federal court choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find this type of provision to be inapplicable or unenforceable. If a court were to find either of the choice of forum provisions contained in our amended and restated certificate of incorporation or amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions.

The choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with the company or our directors, officers or other employees, which may discourage such lawsuits against the company and our directors, officers and other employees and result in increased costs for investors to bring a claim.

Delaware Business Combination Statute

We have elected to be subject to Section 203 of the Delaware General Corporation Law. Section 203 prevents an "interested stockholder," which is defined generally as a person owning 15% or more of a corporation's voting stock, or any affiliate or associate of that person, from engaging in a broad range of "business combinations" with the corporation for three years after becoming an interested stockholder unless:

- the board of directors of the corporation had previously approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, that person owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, other than statutorily excluded shares; or
- following the transaction in which that person became an interested stockholder, the business combination is approved by the board of directors of the corporation and holders of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

Under Section 203, the restrictions described above also do not apply to specific business combinations proposed by an interested stockholder following the announcement or notification of designated extraordinary transactions involving the corporation and a person who had not been an interested stockholder during the previous three years or who became an interested stockholder with the approval of a majority of the corporation's directors, if such extraordinary transaction is approved or not opposed by a majority of the directors who were directors prior to any person becoming an interested stockholder during the previous three years or were recommended for election or elected to succeed such directors by a majority of such directors.

Section 203 may make it more difficult for a person who would be an interested stockholder to effect various business combinations with a corporation for a three-year period. Section 203 also may have the effect of preventing changes in our management and could make it more difficult to accomplish transactions that our stockholders may otherwise deem to be in their best interests.

Anti-Takeover Effects of Some Provisions

Certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws could make the following more difficult:

- acquisition of control of us by means of a proxy contest, tender offer, or otherwise; or
- removal of our incumbent officers and directors.

These provisions, as well as our ability to issue preferred stock, are designed to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection give us the potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us, and that the benefits of this increased protection outweigh the disadvantages of discouraging those proposals, because negotiation of those proposals could result in an improvement of their terms.

Listing

We have applied to list our common stock on the Nasdaq Global Market under the symbol "NMRA," and this offering is contingent upon obtaining such approval.

Transfer Agent and Registrar

The transfer agent and registrar for the common stock will be Computershare Trust Company, N.A. The transfer agent and registrar's address is 150 Royall Street, Canton, Massachusetts 02021.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

The following discussion is a summary of the material U.S. federal income tax consequences to Non-U.S. Holders (as defined below) of the purchase, ownership and disposition of our common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local or non-U.S. tax laws are not discussed. This discussion is based on the Code, Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service (the IRS), in each case in effect as of the date hereof.

These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a “capital asset” within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder’s particular circumstances, including the impact of the Medicare contribution tax on net investment income and the alternative minimum tax. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies and other financial institutions;
- brokers, dealers or traders in securities;
- “controlled foreign corporations,” “passive foreign investment companies” and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- tax-qualified retirement plans; and
- “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.

If an entity treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a “Non-U.S. Holder” is any beneficial owner of our common stock that is neither a “U.S. person” nor an entity treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation created or organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (i) is subject to the primary supervision of a U.S. court and all substantial decisions of which are subject to the control of one or more “United States persons” (within the meaning of Section 7701(a)(30) of the Code) or (ii) has a valid election in effect to be treated as a United States person for U.S. federal income tax purposes.

Distributions

As described in the section titled “Dividend Policy,” we do not anticipate paying any cash dividends in the foreseeable future. However, if we do make distributions of cash or property on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-U.S. Holder’s adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under the subsection titled “—Sale or Other Taxable Disposition.”

Subject to the discussion below regarding effectively connected income, dividends paid to a Non-U.S. Holder will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable tax treaties.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-U.S. Holder will be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States. Any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

A Non-U.S. Holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);
- the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a U.S. real property interest (USRPI), by reason of our status as a U.S. real property holding corporation (USRPHC), for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

A Non-U.S. Holder described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on gain realized upon the sale or other taxable disposition of our common stock, which may be offset by 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 the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-U.S. real property interests and our other business assets, there can be no assurance that we currently are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition of our common stock by a Non-U.S. Holder will not be subject to U.S. federal income tax if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period.

Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on our common stock will not be subject to backup withholding, provided the Non-U.S. Holder certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any distributions on our common stock paid to the Non-U.S. Holder, regardless of whether such distributions constitute dividends or whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting if the applicable withholding agent receives the certification described above or the Non-U.S. Holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act (FATCA)) on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or (subject to the proposed Treasury Regulations discussed below) gross proceeds from the sale or other disposition of, our common stock paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (i) the foreign financial institution undertakes certain diligence and reporting obligations, (ii) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (i) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our common stock. While withholding under FATCA would have applied also to payments of gross proceeds from the sale or other disposition of our common stock beginning on January 1, 2019, proposed Treasury Regulations eliminate FATCA withholding on payments of gross proceeds entirely. Taxpayers generally may rely on these proposed Treasury Regulations until final Treasury Regulations are issued.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

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 in the public market could adversely affect market prices prevailing from time to time. Furthermore, because only a limited number of shares will be available for sale shortly after this offering due to existing contractual and legal restrictions on resale as described below, there may be sales of substantial amounts of our common stock in the public market after the restrictions lapse. This may adversely affect the prevailing market price and our ability to raise equity capital in the future.

Based on the number of shares of our common stock outstanding as of June 30, 2023, upon completion of this offering, we will have 151,949,096 shares of common stock outstanding, assuming (i) the conversion of all 104,417,415 shares of our outstanding preferred stock as of June 30, 2023 into 104,417,415 shares of common stock, (ii) no exercise of the underwriters' option to purchase additional shares and (iii) no exercise of any options after June 30, 2023. Of these shares, 14,710,000 (or 16,916,500 shares of our common stock if the underwriters exercise their option to purchase additional shares in full), sold in this offering will be freely transferable without restriction or registration under the Securities Act, except for any shares purchased by one of our existing "affiliates," as that term is defined in Rule 144 under the Securities Act. The remaining 137,239,096 shares of common stock outstanding will bear "restricted shares" as defined in Rule 144. Restricted shares and the shares of common stock into which such securities are convertible may be sold in the public market only if registered or if they qualify for an exemption from registration under Rules 144 or 701 of the Securities Act, which rules are summarized below. As a result of the contractual lock-up period ending 180 days after the date of this prospectus described below and the provisions of Rules 144 and 701, these shares will be available for sale in the public market as follows:

Number of Shares	Date
137,239,096	After 180 days from the date of this prospectus (subject, in some cases, to volume limitations)

Rule 144

In general, a person who has beneficially owned restricted shares of our common stock for at least six months would be entitled to sell such securities, provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale; and (ii) we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Persons who have beneficially owned restricted shares of our common stock for at least six months but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately 1.5 million shares immediately after this offering, assuming no exercise of the underwriters' option to purchase additional shares; or
- the average weekly trading volume of shares 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 the sale;

provided, in each case, that we are subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information, and notice provisions of Rule 144 to the extent applicable.

Rule 701

In general, under Rule 701 as currently in effect, any of our employees, directors, officers, consultants or advisors who acquired common stock from us in connection with a written compensatory stock or option plan or other written agreement in compliance with Rule 701 before the effective date of the registration statement of which this prospectus is a part (to the extent such common stock is not subject to a lock-up agreement) and who are not our "affiliates" as defined in Rule 144 during the immediately preceding 90 days, is entitled to rely on Rule 701 to resell such shares beginning 90 days after the date of this prospectus in reliance on Rule 144, but without complying with the notice, manner of sale, public information requirements or volume limitation provisions of Rule 144. Persons who are our "affiliates" may resell those shares beginning 90 days after the date of this prospectus without compliance with minimum holding period requirements under Rule 144 (subject to the terms of the lock-up agreement referred to below, if applicable).

Lock-Up Agreements

In connection with this offering, we, our directors, our executive officers and holders of substantially all of our other outstanding shares of common stock or securities convertible into or exchangeable for shares of our common stock outstanding upon the completion of this offering, have entered into or will enter into lock-up agreements with the underwriters, subject to certain exceptions more fully described under the section titled "Underwriting," not to, among other things and subject to certain exceptions, dispose of or hedge any of their common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior consent of J.P. Morgan Securities LLC and BofA Securities, Inc. See the section titled "Underwriting" for additional information.

Registration Rights

Upon the completion of this offering, the holders of approximately 123.8 million shares of our common stock will be entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up agreements described under "—Lock-Up Agreements" above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates, immediately upon the effectiveness of the registration statement of which this prospectus is a part. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock. The requisite percentage of these stockholders will waive all such stockholders' rights to notice of this offering and to include their shares of registrable securities in this offering. See the section titled "Description of Capital Stock—Registration Rights."

Equity Incentive Plans

We intend to file with the SEC a registration statement on Form S-8 under the Securities Act covering the shares of common stock underlying outstanding equity awards and shares of common stock reserved for issuance under the 2015 Plan, the 2020 Plan, the 2023 Plan and the ESPP. Such registration statement is expected to be filed and become effective as soon as practicable after the completion of this offering. Accordingly, shares registered under such registration statement will be available for sale in the open market following its effective date, subject to Rule 144 volume limitations and the lock-up agreements described above, if applicable.

UNDERWRITING

We are offering the shares of common stock described in this prospectus through a number of underwriters. J.P. Morgan Securities LLC and BofA Securities, Inc. are acting 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 common stock listed next to its name in the following table:

Name	Number of Shares
J.P. Morgan Securities LLC	
BofA Securities, Inc.	
Stifel, Nicolaus & Company, Incorporated	
Guggenheim Securities, LLC	
RBC Capital Markets, LLC	
William Blair & Company, L.L.C.	
Total	14,710,000

The underwriters are committed to purchase all the shares of 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 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 2,206,500 additional shares of 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 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 $5.1 million. 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 $40,000.

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 Securities and Exchange Commission 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 publicly disclose the intention to undertake any of the foregoing, 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, (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 and BofA Securities, Inc. 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 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 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 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 10% of the outstanding shares of 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 and BofA Securities, Inc., (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 Securities and Exchange Commission 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 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, distribution, disposition or surrender of lock-up securities: (i) as bona fide gifts, or for bona fide estate planning purposes, (ii) by will, testamentary document or intestacy, (iii) to any trust for the direct or indirect benefit of the lock-up party or any immediate family member, (iv) to a corporation, partnership, limited liability company or other entity 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, (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), (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 with the lock-up party or its affiliates or (B) as part of a distribution to partners, members or stockholders of the lock-up party; (vii) by operation of law, (viii) to us from an employee upon death, disability or termination of employment of such employee, (ix) as part of a sale of lock-up securities acquired in this offering or in open market transactions after the completion of this offering, (x) to us in connection with the vesting, settlement or exercise of restricted stock units, 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 shareholders 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 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 convertible 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 by lock-up parties of trading plans under Rule 10b5-1 under Section 16 of the Exchange Act, provided that such plan does not provide for the transfer of lock-up securities during the restricted period.

J.P. Morgan Securities LLC and BofA Securities, Inc. in their 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 have applied to list our common stock on the Nasdaq Global Market under the symbol “NMRA,” and this offering is contingent upon obtaining such approval.

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of 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 common stock than they are required to purchase in this offering, and purchasing shares of 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 the Nasdaq Global Market, 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 the shares may be offered to the public in that Relevant State at any time:

(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 representatives for any such offer; 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 of the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

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 has been approved by the Financial Conduct Authority, 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 the representatives 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 the Issuer or any Manager 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.

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

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document does not constitute a prospectus within the meaning of, and has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, us or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This document relates to an Exempt Offer in accordance with the Markets Rules 2012 of the Dubai Financial Services Authority (DFSA). This document is intended for distribution only to persons of a type specified in the Markets Rules 2012 of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus supplement 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 or the Dubai Financial Services Authority.

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) (the 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 under this document 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 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 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 (i) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (the SFO) of Hong Kong and any rules made thereunder; or (ii) 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 (the 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 representative has acknowledged that this prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each representative 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, the SFA) pursuant to Section 274 of the SFA;

(ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or

(iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(i) 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

(ii) 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:

(1) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(2) where no consideration is or will be given for the transfer;

(3) where the transfer is by operation of law;

(4) as specified in Section 276(7) of the SFA; or

(5) 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 the shares, we have determined, and hereby notify all relevant persons (as defined in Section 309A(1) of the SFA), that the shares 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 Offers of Securities Regulations as issued by the board of the Saudi Arabian Capital Market Authority, or CMA, pursuant to resolution number 2-11-2004 dated 4 October 2004 as amended by resolution number 1-28-2008, as amended. 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 authorized 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 us or on our behalf. The shares may be offered to companies incorporated under the BVI Business Companies Act, 2004 (British Virgin Islands), or 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 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 (the 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 (the FETL). The shares have not been listed on any of the securities exchanges in the world including, without limitation, the Korea Exchange in Korea. 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 (the 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 License; (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 authorized 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) authorized financial service providers under South African law;

(v) financial institutions recognized 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 authorized 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.

LEGAL MATTERS

The validity of the issuance of the shares of common stock offered hereby will be passed upon for Neumora Therapeutics, Inc. by Latham & Watkins LLP, San Francisco, California. Cooley LLP, San Diego, California, is representing the underwriters.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements as of December 31, 2021 and 2022, and for each of the two years in the period ended December 31, 2022, as set forth in their report. We have included our consolidated 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 under the Securities Act with respect to the common stock offered hereby. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. For further information with respect to the company and our common stock, reference is made to the registration statement and the exhibits and any schedules filed therewith. Statements contained in this prospectus as to the contents of any contract or other document referred to are not necessarily complete and in each instance, if such contract or document is filed as an exhibit, reference is made to the copy of such contract or other document filed as an exhibit to the registration statement, each statement being qualified in all respects by such reference. The SEC maintains a website at www.sec.gov, from which interested persons can electronically access the registration statement, including the exhibits and any schedules thereto.

As a result of the offering, we will be required to file periodic reports and other information with the SEC. We also maintain a website at www.neumoratx.com, at which, following this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with or furnished to the SEC. Our website and the information contained therein or connected thereto shall not be deemed to be incorporated into this prospectus or the registration statement of which it forms a part. We have included our website address as an inactive textual reference only.

NEUMORA THERAPEUTICS, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of
Neumora Therapeutics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Neumora Therapeutics, Inc. (the Company) as of December 31, 2021 and 2022, the related consolidated statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit and cash flows for each of the two years in the period ended December 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2021 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2020.

San Jose, California
May 2, 2023, except for the effects of the reverse stock split described in Note 1 and Note 18, as to which the date is September 11, 2023

NEUMORA THERAPEUTICS, INC.

Consolidated Balance Sheets
(in thousands, except par values)

	December 31, 2021	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 409,247	$ 240,943
Short-term marketable securities	—	130,941
Restricted cash	125	50
Prepaid expenses and other current assets	6,231	16,021
Total current assets	415,603	387,955
Long-term marketable securities	—	23,511
Property and equipment, net	2,170	2,411
Operating lease right-of-use assets	1,871	8,231
Restricted cash	—	1,213
Other assets	9,653	2,913
Total assets	$ 429,297	$ 426,234
Liabilities, Convertible Preferred Stock, and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 1,639	$ 7,147
Accrued liabilities	19,096	11,536
Early exercise liability, current portion	928	1,644
Operating lease liabilities, current portion	1,056	3,370
Convertible preferred stock warrant liability	559	—
Total current liabilities	23,278	23,697
Operating lease liabilities, net of current portion	996	5,072
Early exercise liability, net of current portion	386	628
Total liabilities	24,660	29,397
Commitments and contingencies (Note 9)		
Convertible preferred stock, $0.0001 par value; 755,000 and 820,349 shares authorized as of December 31, 2021 and December 31, 2022, respectively; 94,710 and 104,417 shares issued and outstanding as of December 31, 2021 and December 31, 2022, respectively; aggregate liquidation preference of $856,756 as of December 31, 2022	729,858	843,687
Stockholders' deficit:		
Common stock, $0.0001 par value; 1,125,000 and 1,210,000 shares authorized as of December 31, 2021 and December 31, 2022, respectively; 31,985 and 32,612 shares issued and outstanding as of December 31, 2021 and December 31, 2022, respectively	3	3
Additional paid-in capital	11,381	21,430
Accumulated other comprehensive loss	—	(774)
Accumulated deficit	(336,605)	(467,509)
Total stockholders' deficit	(325,221)	(446,850)
Total liabilities, convertible preferred stock, and stockholders' deficit	$ 429,297	$ 426,234

The accompanying notes are an integral part of these consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except per share amounts)

	Year Ended December 31, 2021	Year Ended December 31, 2022
Operating expenses:		
Research and development	$ 55,776	$ 91,749
Acquired in-process research and development	157,000	13,000
General and administrative	24,547	31,121
Total operating expenses	237,323	135,870
Loss from operations	(237,323)	(135,870)
Other income (expense):		
Interest income	—	4,561
Other income (expense), net	11	405
Total other income	11	4,966
Net loss	(237,312)	(130,904)
Other comprehensive loss:		
Unrealized loss on marketable securities	—	(774)
Comprehensive loss	$ (237,312)	$ (131,678)
Net loss per share, basic and diluted	$ (10.84)	$ (4.81)
Weighted-average shares outstanding, basic and diluted	21,897	27,207

The accompanying notes are an integral part of these consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit
(in thousands)

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount				
Balance as of December 31, 2020	37,582	$ 281,679	30,607	$ 3	$ 4,906	$ —	$ (99,293)	$ (94,384)
Issuance of Series A-2 convertible preferred stock, net of issuance costs of $71	37,119	291,179	—	—	—	—	—	—
Issuance of Series A-2 convertible preferred stock for an acquisition of assets	20,009	157,000	—	—	—	—	—	—
Issuance of common stock	—	—	382	—	960	—	—	960
Issuance of common stock upon early exercise of stock options	—	—	563	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	407	—	1,099	—	—	1,099
Issuance of common stock as noncash consideration for an acquisition of assets	—	—	26	—	43	—	—	43
Vesting of restricted common stock	—	—	—	—	99	—	—	99
Stock-based compensation	—	—	—	—	4,274	—	—	4,274
Net loss and comprehensive loss	—	—	—	—	—	—	(237,312)	(237,312)
Balance as of December 31, 2021	94,710	$ 729,858	31,985	$ 3	$ 11,381	$ —	$ (336,605)	$ (325,221)
Issuance of Series A-1 convertible preferred stock upon exercise of warrants	157	1,613	—	—	—	—	—	—
Issuance of Series B convertible preferred stock, net of issuance costs of $179	9,550	112,216	—	—	—	—	—	—
Issuance of common stock upon early exercise of stock options	—	—	442	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	228	—	612	—	—	612
Issuance of common stock as noncash consideration related to an acquisition of assets	—	—	5	—	24	—	—	24
Forfeiture of restricted stock subject to repurchase	—	—	(48)	—	—	—	—	—
Vesting of restricted common stock	—	—	—	—	1,115	—	—	1,115
Unrealized loss on marketable debt securities	—	—	—	—	—	(774)	—	(774)
Stock-based compensation	—	—	—	—	8,298	—	—	8,298
Net loss	—	—	—	—	—	—	(130,904)	(130,904)
Balance as of December 31, 2022	104,417	$ 843,687	32,612	$ 3	$ 21,430	$ (774)	$ (467,509)	$ (446,850)

The accompanying notes are an integral part of these consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31, 2021	Year Ended December 31, 2022
Operating activities:		
Net loss	$ (237,312)	$ (130,904)
Adjustments to reconcile net loss to net cash used in operating activities:		
Acquired in-process research and development	157,000	13,000
Stock-based compensation	4,274	8,298
Noncash operating lease expense	1,013	2,103
Depreciation and amortization	538	594
Net (accretion) and amortization of investments in marketable securities	—	(708)
Realized loss on investments	—	(18)
Change in fair value of convertible preferred stock warrants	(53)	(559)
Other	81	246
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(2,260)	(3,628)
Other assets	(3,663)	1,373
Accounts payable	(759)	(1,246)
Accrued liabilities	6,562	(1,621)
Operating lease liabilities	(841)	(1,826)
Net cash used in operating activities	(75,420)	(114,896)
Investing activities:		
Purchases of marketable securities	—	(226,369)
Cash paid for an acquisition of assets	—	(13,000)
Proceeds from maturities of marketable securities	—	71,867
Purchases of property and equipment	(817)	(511)
Net cash used in investing activities	(817)	(168,013)
Financing activities:		
Proceeds from issuance of convertible preferred stock, net of issuance costs	291,179	112,216
Proceeds from issuance of common stock	960	—
Proceeds from exercise of stock options	2,509	2,658
Proceeds from exercise of warrants	—	1,613
Payments for deferred offering costs	(1,141)	(744)
Net cash provided by financing activities	293,507	115,743
Net change in cash and cash equivalents and restricted cash	217,270	(167,166)
Cash and cash equivalents and restricted cash at beginning of year	192,102	409,372
Cash and cash equivalents and restricted cash at end of year	$ 409,372	$ 242,206
Components of cash and restricted cash:		
Cash and cash equivalents	$ 409,247	$ 240,943
Restricted cash	125	1,263
Total cash and cash equivalents and restricted cash	$ 409,372	$ 242,206
Supplemental disclosure of noncash activities:		
Operating lease liabilities arising from obtaining right-of-use assets	$ 1,039	$ 8,865
Supplemental disclosure of noncash investing and financing activities:		
Issuance of convertible preferred stock as noncash consideration for acquisition of assets	$ 157,000	$ —
Purchases of property and equipment included in accounts payable	$ —	$ 505
Deferred offering costs related to initial public offering included in accrued liabilities	$ 688	$ 340

The accompanying notes are an integral part of these consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Notes to Consolidated Financial Statements

1. Organization and Liquidity

Description of Business

Neumora Therapeutics, Inc. (the Company), formerly known as RBNC Therapeutics, Inc., was originally incorporated in the State of Delaware in November 2019, and is headquartered in Watertown, Massachusetts and also has operations in South San Francisco, California.

The Company is a clinical-stage biopharmaceutical company founded to confront the global brain disease crisis by taking a different approach to the way treatments for brain diseases are developed. The Company's therapeutic pipeline currently consists of clinical and preclinical neuroscience programs that target novel mechanisms of action for a broad range of underserved neuropsychiatric disorders and neurodegenerative diseases.

As of December 31, 2022, the Company has devoted a significant portion of its financial resources and efforts to building its organization, acquiring technologies and companies, executing clinical and preclinical studies, conducting research and development, identifying and developing potential product candidates, building its precision neuroscience tools, organizing and staffing the Company, business planning, establishing, maintaining and protecting its intellectual property portfolio, raising capital and providing general and administrative support for these operations. The Company has not generated revenue from the sale of products.

Liquidity

The Company has incurred net losses and negative cash flows from operations since inception and as of December 31, 2022, had an accumulated deficit of $467.5 million. The Company incurred a net loss of $237.3 million and $130.9 million during the year ended December 31, 2021 and 2022, respectively. As of December 31, 2022, the Company had cash, cash equivalents and marketable securities of $395.4 million, which are available to fund future operations.

The Company expects to incur additional losses in the future as it continues its research and development efforts, advances its product candidates through clinical and preclinical development, enhances its precision neuroscience approach and programs, expands its product pipeline, seeks regulatory approval, prepares for commercialization, as well as hires additional personnel, protects its intellectual property and grows its business. The Company will need to raise additional capital to support its continuing operations and pursue its long-term business plan, including to complete the development and commercialization of its product candidates, if approved. Such activities are subject to significant risks and uncertainties, including clinical failure which can impact the Company's ability to secure additional funding. The Company has historically financed its operations primarily with the proceeds from the issuance of its convertible preferred stock, borrowings pursuant to convertible promissory notes and cash acquired in its acquisitions of assets. The Company may raise additional capital through public or private equity offerings or debt financings or other capital sources, which may include strategic collaborations or other arrangements with third parties, or other sources of financing. However, there is no guarantee that any of these financing or opportunities will be executed or realized on favorable terms, if at all, and some could be dilutive to existing stockholders. The Company's ability to raise additional capital through either the issuance of equity or debt is dependent on a number of factors including, but not limited to, Company prospects, which itself is subject to a number of development and business risks and uncertainties, as well as uncertainty about whether the Company would be able to raise such additional capital at a price or on terms that are favorable.

NEUMORA THERAPEUTICS, INC.

Notes to Consolidated Financial Statements

The Company believes that its existing cash, cash equivalents and marketable securities as of December 31, 2022 will be sufficient to support operations for at least the next 12 months from the date these consolidated financial statements were available to be issued.

Reverse Stock Split

In September 2023, the Company's board of directors approved an amended and restated certificate of incorporation to effect a reverse split of shares of the Company's common stock and convertible preferred stock on a 7.8463-for-1 basis (the "Reverse Stock Split"), which was effected on September 8, 2023. The par value of the common stock and convertible preferred stock was not adjusted as a result of the Reverse Stock Split. Accordingly, all share data and per share data amounts for all periods presented in the consolidated financial statements and notes thereto have been retrospectively adjusted to reflect the effect of the Reverse Stock Split.

2. Summary of Significant Accounting Policies and Basis of Presentation

Basis of Presentation and Consolidation

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP) and applicable rules and regulations of the Securities and Exchange Commission (SEC) regarding annual financial reporting. The consolidated financial statements include all accounts of the Company and its wholly-owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

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 in the consolidated financial statements and accompanying notes. 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 and judgments on historical experience and on various other assumptions that the Company believes are reasonable under the circumstances. These estimates are based on management's knowledge about current events and expectations about actions the Company may undertake in the future. These judgments, estimates and assumptions are used for, but not limited to, accrued research and development expenses, accounting for acquisitions of assets, fair value of certain assets and liabilities, the fair value of the Company's convertible preferred stock, the fair value of the Company's convertible preferred stock warrant liability, the fair value of the Company's common stock, stock-based compensation, the measurement of right-of-use assets and lease liabilities and related incremental borrowing rate, and uncertain tax positions and the valuation allowance for net deferred tax assets. Actual results may differ from the Company's estimates.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker (CODM), or decision-making group, in making decisions on how to allocate resources and assess performance. The Company's Chief Executive Officer serves as the CODM. The Company views its operations and manages its business in one operating segment.

Risks and Uncertainties

The Company is subject to certain risks and uncertainties, including, but not limited to, changes in any of the following areas that the Company believes could have a material adverse effect on future financial position or results of operations: successfully develop, manufacture, and market any approved products; obtain regulatory approval from the U.S. Food and Drug Administration or foreign regulatory agencies prior to commercial sales; new technological innovations; dependence on key personnel, protection of intellectual property; compliance with governmental regulations; uncertainty of market acceptance of any approved products; product liability; and the need to obtain additional financing.

While the Company continues to monitor the impact of the ongoing COVID-19 pandemic on its business, the extent of the impact of the pandemic on the Company's business, operations, and clinical development timelines and plans remains uncertain. The COVID-19 pandemic delayed patient enrollment in the Company's Phase 2 clinical trial of NMRA-140 and may further delay the Company's initiation of preclinical studies and clinical trials, interrupt its supply chain, disrupt regulatory activities, or have other adverse effects on its business and operations. Given the uncertainty regarding variants, the extent of the impact of the COVID-19 pandemic on the Company's preclinical studies or clinical trials will depend on future developments, which are uncertain. In response to the COVID-19 pandemic, the Company has implemented measures intended to help minimize its risk of exposure to the virus for its employees, including policies that allow its employees to work remotely. Certain third-party service providers have also experienced and may continue to experience shutdowns or other business disruptions. The Company cannot predict the specific extent, duration, or full impact that the COVID-19 pandemic will have on its consolidated financial condition and results of operations.

Cash and Cash Equivalents

All highly liquid investments, including money market funds, with original maturities of three months or less at the time of purchase are considered to be cash equivalents. All of the Company's cash equivalents have liquid markets and high credit ratings. The Company maintains its cash in bank deposits and other accounts.

Restricted Cash

Restricted cash primarily consists of credit card accounts and facility lease agreements collateralized by money market accounts or a letter of credit pursuant to certain banking and lease agreements. Restricted cash, which is unavailable for a period longer than one year from the consolidated balance sheet date, is classified as a noncurrent asset. Otherwise, restricted cash is included in other current assets in the consolidated balance sheets.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents deposited in accounts at several financial institutions that may exceed the Federal Deposit Insurance Corporation's insurance limit. The Company is exposed to credit risk in the event of a default by the financial institutions holding its cash and cash equivalents to the extent recorded in the consolidated balance sheets. The Company believes it is not exposed to significant credit risk due to the financial position of the financial institutions in which those deposits are held.

Marketable Securities

The Company invests its excess cash in marketable debt securities with high credit ratings including but not limited to money market funds, securities issued by the U.S. government and its agencies and commercial paper that are accounted for as available-for-sale and carried at fair value. Marketable securities are classified as short-term or long-term based on the maturity date and their availability to meet current operating requirements. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity, which is included in interest income in the consolidated statements of operations and comprehensive loss.

Realized gains and losses on marketable securities, if any, are included in other income (expense), net. The cost of securities sold is determined based on the trade date using the specific identification method.

The Company periodically assesses its available-for-sale debt securities for impairment. For debt securities in an unrealized loss position, this assessment first considers the Company's intent to sell, or whether it is more likely than not that it will be required to sell the security before recovery of its amortized cost basis. If either of these criteria are met, the debt security's amortized cost basis is written down to fair value within other income (expense), net. For debt securities in an unrealized loss position that do not meet the aforementioned criteria, the Company assesses whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, the extent to which fair value is less than amortized cost, any changes to the rating of the security by a rating agency, and any adverse conditions specifically related to the security is considered, among other factors. If this assessment indicates that a credit loss may exist, the present value of cash flows expected to be collected from the security are compared to the amortized cost basis of the security. If the present value of cash flows expected to be collected is less than the amortized cost basis, a credit loss exists and an allowance for credit losses will be recorded in other income (expense), net, limited by the amount that the fair value is less than the amortized cost basis. Any additional impairment not recorded through an allowance for credit losses is recognized in other comprehensive loss. Changes in the allowance for credit losses are recorded as provision for (or reversal of) credit loss expense. Losses are charged against the allowance when management believes the un-collectability of an available-for-sale security is confirmed or when either of the criteria regarding intent or requirement to sell is met. These changes are recorded in other income (expense), net.

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. The Company measures fair value by maximizing the use of observable inputs, where available, and minimizing the use of unobservable inputs when measuring fair value. Financial assets and liabilities recorded at fair value in the consolidated balance sheets are categorized in the fair value hierarchy based upon the lowest level of input that is significant to the fair value as follows:

Level 1—Observable inputs such as unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2—Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable inputs for similar assets or liabilities. These include quoted prices for identical or similar assets or liabilities in active markets and quoted prices for identical or similar assets of liabilities in markets that are not active.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3 (see Note 4). A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value of the instrument.

Property and Equipment, Net

Property and equipment, net is stated at cost less accumulated depreciation. Depreciation of property and equipment is computed using the straight-line method over the estimated useful lives of the assets, which is three to seven years. Leasehold improvements are amortized using the straight-line method over the lesser of the estimated useful lives of the assets or the remaining term of the lease. Construction in progress is stated at cost and not depreciated until the asset is placed into service. Upon sale or retirement of the assets, the cost and related accumulated depreciation are removed from the consolidated balance sheets and the resulting gain or loss is recognized in the consolidated statements of operations and comprehensive loss. Expenditures for maintenance and repairs are expensed as incurred.

Impairment of Long-Lived Assets

The Company reviews the carrying amount of its long-lived assets, including property and equipment and right-of-use assets, for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. If indicators of impairment exist, an impairment loss is recognized when the estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition are less than its carrying amount. The impairment charge is determined based upon the excess of the carrying value of the asset over its estimated fair value, with estimated fair value determined based upon an estimate of discounted future cash flows or other appropriate measures of estimated fair value. Estimating discounted cash flows requires the Company to make significant judgements and assumptions. Actual results may vary from the Company's estimates as of the date of impairment testing and adjustments may occur in future periods. The Company believes that no impairment of long-lived assets is required as of and for the year ended December 31, 2021, and 2022.

Leases

The Company determines if an arrangement is or contains a lease at inception by assessing whether it conveys the right to control the use of an identified asset in exchange for consideration. If a lease is identified, classification is determined at lease commencement. To date, all of the Company's leases have been determined to be operating leases. Operating lease liabilities are recognized at the present value of the future lease payments at the lease commencement date. The Company's leases do not provide an implicit interest rate and therefore the Company estimates its incremental borrowing rate to discount lease payments. The incremental borrowing rate reflects the estimated interest rate that the Company would have to pay to borrow on a collateralized basis, an amount equal to the lease payments in a similar economic environment over a similar term. Operating lease right-of-use (ROU) assets are determined based on the corresponding lease liability adjusted for any lease payments made at or before commencement, initial direct costs, and lease incentives. The operating lease ROU asset also includes impairment charges if the Company determines the ROU asset is impaired. The Company considers a lease term to be the noncancelable period that it has the right to use the underlying asset, including any periods where it is reasonably assured the Company will exercise the option to extend the contract. Periods covered by an option to extend are included in the lease term if the lessor controls the exercise of that option. Operating lease expenses are recognized, and the ROU assets are amortized on a straight-line basis over the lease term. The Company has elected to not separate lease and non-lease components for its leased assets and accounts for all lease and non-lease components of its agreements as a single lease component. The Company has elected not to recognize on the consolidated balance sheets leases with terms of one year or less.

Acquisitions

The Company evaluates mergers, acquisitions, and other similar transactions to assess whether or not the transaction should be accounted for as a business combination or an acquisition of assets. The Company first identifies who is the acquiring entity by determining if the target is a legal entity or a group of assets or liabilities. If control over a legal entity is being evaluated, the Company also evaluates if the target is a variable interest or voting interest entity. For acquisitions of voting interest entities, the Company applies a screen test to determine if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets. If the screen test is met, the transaction is accounted for as an acquisition of assets. If the screen is not met, further determination is required as to whether or not the Company has acquired inputs and processes that have the ability to create outputs which would meet the definition of a business. Significant judgment is required in the application of the screen test to determine whether an acquisition is a business combination or an acquisition of assets.

For an acquisition of assets, a cost accumulation model is used to determine the cost of the acquisition. Common stock and convertible preferred stock issued as consideration in an acquisition of assets are generally measured based on the acquisition date fair value of the equity interests issued. Direct transaction costs are recognized as part of the cost of an acquisition of assets. The Company also evaluates which elements of a transaction should be accounted for as a part of an acquisition of assets and which should be accounted for separately.

The cost of an acquisition of assets, including transaction costs, are allocated to identifiable assets acquired and liabilities assumed based on a relative fair value basis. Goodwill is not recognized in an acquisition of assets. Any difference between the cost of an acquisition of assets and the fair value of the net assets acquired is allocated to the non-monetary identifiable assets based on their relative fair values. Assets acquired as part of an acquisition of assets that are considered to be in-process research and development intangible assets (IPR&D) are immediately expensed and recorded as a component of acquired in-process research and development expense in the consolidated statements of operations and comprehensive loss unless there is an alternative future use in other research and development projects.

In addition to upfront consideration, the Company's acquisitions of assets may also include contingent consideration payments to be made for future milestone events or royalties on net sales of future products. The Company assesses whether such contingent consideration is subject to liability classification and fair value measurement or meets the definition of a derivative. Contingent consideration payments in an acquisition of assets not required to be classified as a liability at fair value, or are accounted for as derivatives that qualify for a scope exception from derivative accounting, are recognized when the contingency is resolved, and the consideration is paid or becomes payable Contingent consideration payments required to be classified as a liability, or are accounted for as derivatives and do not qualify for a scope exception from derivative accounting, are recorded at fair value on the date of the acquisition and are subsequently remeasured to fair value at each reporting date. Contingent consideration payments made prior to regulatory approval are expensed as incurred. Any future payments that are contingent upon continued services to the Company are treated as compensation and recognized when it is probable such amounts will become payable.

If the target legal entity is determined to be a variable interest entity (VIE) and not a business, all tangible and intangible assets acquired, including any IPR&D assets but excluding goodwill, and liabilities assumed, including contingent consideration, are recorded at their fair values. If the acquisition is determined to be a business combination, all tangible and intangible assets acquired, including any IPR&D assets, and liabilities assumed, including contingent consideration, are recorded at their fair values. Goodwill is recognized for any difference between the consideration transferred and fair value determination. In addition, direct transaction costs in connection with business combinations are expensed as incurred, rather than capitalized.

The tax basis of assets acquired in either a business combination or acquisition of assets are compared to the book basis of such assets resulting in the recognition of deferred tax assets and liabilities.

Deferred Offering Costs

Deferred offering costs, which consist of direct incremental legal, consulting, banking, and accounting fees primarily relating to the Company's contemplated initial public offering (IPO) are capitalized and will be offset against proceeds upon the consummation of the offering within stockholders' deficit. In the event an anticipated offering is terminated, deferred IPO offering costs will be expensed. As of December 31, 2021 and 2022, deferred offering costs included in other assets in the consolidated balance sheets were $1.8 million and $2.9 million, respectively.

Convertible Preferred Stock Warrant Liability

Warrants to purchase shares of the Company's convertible preferred stock, or the preferred stock warrants, are freestanding financial instruments classified as a liability in the Company's consolidated balance sheets as the underlying securities are contingently redeemable upon the occurrence of events that are outside of the control of the Company, which precludes equity classification. The preferred stock warrants are recorded at their estimated fair value upon issuance and are subject to remeasurement at the end of each reporting period, with changes in estimated fair value recognized as a component of other income (expense) in the consolidated statements of operations and comprehensive loss, until the exercise or expiration of such warrants. The Company estimates the fair value of preferred stock warrants at each reporting period using the Black-Scholes option pricing model, which requires inputs based on certain subjective assumptions, including the expected stock price, volatility, the expected term of the option, the risk-free interest rate for a period that approximates the expected term of the option, and the expected dividend yield. Actual results may differ from the Company's estimates. As of December 31, 2022, the Company's preferred stock warrants had either been exercised or had expired.

Convertible Preferred Stock

The Company has classified convertible preferred stock, which is contingently redeemable, as temporary equity in the consolidated balance sheets due to terms that allow for the effective redemption of such shares in cash at the option of the holders upon certain liquidation events that are not solely within the Company's control.

The carrying values of the convertible preferred stock are adjusted to their liquidation preferences if and when it becomes probable that such a liquidation event will occur. The Company did not accrete the value of the convertible preferred stock to its redemption value since a liquidation event was not considered probable as of December 31, 2021 and 2022. Subsequent adjustments to the carrying values of the convertible preferred stock will be made only when it becomes probable that such liquidation events will occur, causing the shares to become redeemable.

The Company also evaluates the features of its convertible preferred stock to determine if the features require bifurcation from the underlying shares by evaluating whether they are clearly and closely related to the underlying shares and whether they meet the definition of a derivative.

In determining if an extinguishment or modification of changes to mezzanine equity-classified preferred stock has occurred, the Company has elected a policy to evaluate if changes add, delete, or significantly change a substantive contractual term (e.g., one that is at least reasonably possible of being exercised), or fundamentally change the nature of the convertible preferred stock. This evaluation includes the consideration of both the expected economics as well as the business purpose for the amendment.

Research and Development Expenses and Related Prepaid Assets and Accrued Liabilities

Research and development costs are expensed as incurred. Research and development expenses primarily consist of internal research and development expense, including personnel-related expenses (such as salaries, benefits and noncash stock-based compensation) and other expenses, including laboratory supplies and other non-capital equipment utilized for in-house research, research and consulting expenses, software development costs, license fees and allocated expenses, including facilities costs and depreciation and amortization; external research and development expenses incurred under arrangements with vendors conducting research and development services on its behalf, such as contract research organizations (CROs), preclinical testing organizations and contract manufacturing organizations (CMOs). Costs to develop the Company's platform information technologies are recorded as research and development expense unless the criteria to be capitalized as internal-use software costs is met. Payments made prior to the receipt of goods or services to be used in research and development are capitalized, evaluated for current or long-term classification, and included in prepaid expenses and other current assets or other assets in the consolidated balance sheets based on when the goods are received or the services are expected to be received or consumed, and recognized in research and development expenses when they are realized.

The Company is required to estimate expenses resulting from its obligations under contracts with vendors, service providers and clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations which vary from contract to contract and may result in cash flows that do not match the periods over which materials or services are provided. The Company estimates and records accrued expenses for the related research and development activities based on the level of services performed but not yet invoiced pursuant to agreements established with its service providers, according to the progress of preclinical studies, clinical trials or related activities, and discussions with applicable personnel and service providers as to the progress or state of consummation of goods and services.

During the course of a clinical trial, the rate of expense recognition is adjusted if actual results differ from the Company's estimates. The Company estimates accrued expenses as of each balance sheet date in its consolidated financial statements based on the facts and circumstances known at that time. The clinical trial accrual is dependent in part upon the timely and accurate reporting of CROs, CMOs and other third-party vendors. Although the Company does not expect its estimates to be materially different from amounts actually incurred, its estimate may vary from the actual results. To date, the Company has not experienced material differences between its accrued expenses and actual expenses.

Stock-Based Compensation

The Company maintains equity incentive plans (the Plans) as a long-term incentive for employees, directors, and non-employee service providers. The Company accounts for all stock-based awards based on their fair value on the date of the grant. For stock-based awards with service only vesting conditions, the Company recognizes expense on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. For awards with performance vesting conditions, the Company evaluates the probability of achieving the performance vesting condition at each reporting date. The Company begins to recognize expense for awards with performance- based vesting conditions using an accelerated attribution method when it is deemed probable that the performance condition will be met. For awards with both market and service vesting conditions, the Company recognizes expense using the accelerated attribution method over the derived requisite service period. Stock-based compensation is classified in the consolidated statements of operations and comprehensive loss based on the function to which the related services are provided. Forfeitures are accounted for as they occur.

The fair value of stock option awards with only service conditions and/or performance-based vesting conditions are estimated on the date of grant using the Black-Scholes option pricing model, which requires inputs based on certain subjective assumptions, including the expected stock price volatility, the expected term of the option, the risk-free interest rate for a period that approximates the expected term of the option, and the expected dividend yield. The fair value of stock options awards with market-based vesting conditions is estimated on the grant date using the Monte Carlo simulation model, which utilizes subjective assumptions, including volatility and the derived service periods, that determine the probability of satisfying the market condition stipulated in the award to estimate the fair value of the award. The fair value of restricted stock awards is based on the estimated fair value of the Company's common stock on the date of grant.

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The fair value of the Company’s common stock is determined by the Company’s board of directors with the assistance of management. The fair value of common stock is determined using valuation methodologies which utilize certain assumptions. including probability weighting of events, volatility, time to an exit event, a risk-free interest rate and an assumption for a discount for lack of marketability. In determining the fair value of 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’ Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*.

Income Taxes

The Company accounts for income taxes under the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of events that have been included in the Company’s consolidated financial statements and tax returns. 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. Deferred tax assets are reduced by a valuation allowance if it is more likely-than-not that these assets may not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the temporary differences representing net future deductible amounts become deductible.

The Company recognizes and measures uncertain tax positions using a two-step approach. The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely-than-not that a position will be sustained, none of the benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more-likely-than-not recognition threshold is calculated as the largest amount that is more than 50% likely of being realized upon resolution of the contingency. Judgment is required to evaluate uncertain tax positions. The Company evaluates uncertain tax positions on a regular basis. The evaluations are based on a number of factors, including changes in facts and circumstances, changes in tax law, correspondence with tax authorities during the course of the audit, and effective settlement of audit issues.

The Company’s policy is to include penalties and interest expense related to income taxes as a component of its provision for income taxes. The Company has not reported any interest or penalties associated with income tax for any period presented.

Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted-average number of shares of common stock outstanding during the period, without consideration for common stock equivalents. Diluted net loss per share is the same as basic net loss per share, since the effects of potentially dilutive securities are antidilutive given the net loss for each period presented.

Comprehensive Loss

Comprehensive loss includes net loss and certain changes in stockholders’ deficit that are excluded from net loss, such as unrealized losses on the Company’s available-for-sale marketable securities.

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Notes to Consolidated Financial Statements

Emerging Growth 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 consolidated financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

Recently Adopted Accounting Pronouncements

In May 2021, the FASB issued ASU 2021-04, *Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options* (ASU 2021-04), which requires issuers to account for a modification or exchange of freestanding equity-classified written call options that remain equity classified after the modification or exchange based on the economic substance of the modification or exchange. The Company adopted ASU 2021-04 as of January 1, 2022. The adoption did not have a material impact on its consolidated financial statements and related disclosures.

Recent Accounting Pronouncements Not Yet Adopted

The Company continues to monitor new accounting pronouncements issued by the FASB and does not believe any accounting pronouncements issued through the date of this report will have a material impact on the Company's consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Notes to Consolidated Financial Statements

3. Cash Equivalents and Marketable Securities

The following table summarizes the amortized cost and fair value of the Company's cash equivalents and marketable securities by major investment category:

	December 31, 2021			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Estimated Fair Value
	(in thousands)			
Cash equivalents:				
Money market funds	$ 330,216	$ —	$ —	$ 330,216
Total cash equivalents	$ 330,216	$ —	$ —	$ 330,216

	December 31, 2022			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Estimated Fair Value
	(in thousands)			
Cash equivalents:				
Money market funds	$ 183,353	$ —	$ —	$ 183,353
Total cash equivalents	$ 183,353	$ —	$ —	$ 183,353
Marketable securities:				
U.S. government and agency debt securities	$ 57,534	$ —	$ (272)	$ 57,262
Corporate debt securities	42,267	1	(266)	42,002
Commercial paper	55,425	—	(237)	55,188
Total marketable securities	$ 155,226	$ 1	$ (775)	$ 154,452
Total cash equivalents and marketable securities	$ 338,579	$ 1	$ (775)	$ 337,805

The following table summarizes the Company's marketable securities by contractual maturity (in thousands):

	December 31, 2022
Within one year	$ 130,941
After one year through two years	23,511
Total marketable securities	$ 154,452

As of December 31, 2022, the Company has not realized any material gains or losses on its marketable securities, including any impairment charges on its securities related to expected credit losses. As of December 31, 2022, the aggregate difference between the amortized cost and fair value of each security in an unrealized loss position was de minimis. Since any provision for expected credit losses for a security held is limited to the amount the fair value is less than its amortized cost, no allowance for expected credit loss was deemed necessary at December 31, 2022. See Note 4 for further information regarding the fair value of the Company's financial instruments.

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4. Fair Value Measurements

The carrying amounts of the Company's financial instruments, including prepaid expenses and other current assets, accounts payable, accrued liabilities and the current portion of operating lease liabilities approximate fair value due to the short-term nature of those instruments.

The following tables summarize the Company's assets and liabilities measured at fair value on a recurring basis by level within the valuation hierarchy:

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Cash equivalents:				
Money market funds	$ 330,216	$ —	$ —	$ 330,216
Total assets measured at fair value	$ 330,216	$ —	$ —	$ 330,216
Liabilities:				
Convertible preferred stock warrant liability	$ —	$ —	$ 559	$ 559
Total liabilities measured at fair value	$ —	$ —	$ 559	$ 559

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Cash equivalents:				
Money market funds	$ 183,353	$ —	$ —	$ 183,353
Marketable securities:				
U.S. government and agency debt securities	44,777	12,485	—	57,262
Corporate debt securities	—	42,002	—	42,002
Commercial paper	—	55,188	—	55,188
Total assets measured at fair value	$ 228,130	$ 109,675	$ —	$ 337,805

Money market funds are highly liquid and actively traded marketable securities that generally transact at a stable $1.00 net asset value representing its estimated fair value. The Company estimates the fair value of its commercial paper, corporate debt securities and U.S. government and agency debt securities by taking into consideration valuations obtained from third-party pricing services. The pricing services utilize industry standard valuation models, including both income and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. These inputs include reported trades of and broker/dealer quotes on the same or similar securities, issuer credit spreads, benchmark securities, prepayment/default projections based on historical data, and other observable inputs.

Convertible Preferred Stock Warrant Liability

In September 2020, the Company issued convertible preferred stock warrants to purchase shares of its Series A-1 convertible preferred stock, which did not meet the criteria for equity classification. The estimated fair value of

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the convertible preferred stock warrant liability, prior to exercise or expiration as of December 31, 2022, was determined based on significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy.

The following table summarizes the significant unobservable inputs used in the fair value measurement of the convertible preferred stock warrant liability during the year ended December 31, 2021, and 2022:

Year Ended December 31, 2021			
Fair Value Range (in millions)	Valuation Technique	Unobservable Input	Input Range
$0.1 - $0.6	Black-Scholes Option Pricing Model	Fair value of Series A-1 convertible preferred stock (per share)	$6.36 - $6.52
		Expected volatility	112.8% – 123.4%
		Expected term (years)	0.3 – 1.0
		Expected dividend yield	0.0% – 0.0%

Year Ended December 31, 2022			
Fair Value Range (in millions)	Valuation Technique	Unobservable Input	Input Range
$0.0 - $0.4	Black-Scholes Option Pricing Model	Fair value of Series A-1 convertible preferred stock (per share)	$6.52 - $8.87
		Expected volatility	104.8% –112.8%
		Expected term (years)	0.0 – 0.8
		Expected dividend yield	0.0% – 0.0%

The following table provides a summary of the changes in the fair value of the Company's liabilities measured using Level 3 inputs:

	Year Ended December 31, 2021	Year Ended December 31, 2022
	(in thousands)	
Balance at beginning of period	$ 612	$ 559
Remeasurement in fair value of convertible preferred stock warrant liability prior to settlement	(53)	(403)
Remeasurement in fair value of preferred stock warrant liability prior to expiration	—	(156)
Balance at end of period	$ 559	$ —

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5. Property and Equipment, Net

Property and equipment, net, consisted of the following:

	December 31, 2021	December 31, 2022
	(in thousands)	
Laboratory equipment	$ 1,925	$ 2,384
Computer and software	220	420
Furniture and fixtures	151	136
Leasehold improvements	257	17
Total property and equipment	2,553	2,957
Less: accumulated depreciation and amortization	(598)	(1,060)
Construction in progress	215	514
Total property and equipment, net	$ 2,170	$ 2,411

Depreciation and amortization expense was $0.5 million and $0.6 million for the year ended December 31, 2021 and 2022, respectively. As of December 31, 2022, all of the Company's property and equipment was located in the United States.

6. Balance Sheet Components

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following:

	December 31, 2021	December 31, 2022
	(in thousands)	
Prepaid research and development costs ($4.4 million and $11.9 million from related party in 2021 and 2022, respectively)	$ 4,836	$ 13,484
Prepaid other	1,195	1,618
Other receivables	200	919
Total prepaid expenses and other current assets	$ 6,231	$ 16,021

Other Assets

Other assets consisted of the following:

	December 31, 2021	December 31, 2022
	(in thousands)	
Noncurrent prepaid research and development costs from related party	$ 7,623	$ —
Deferred offering costs	1,829	2,912
Other assets	201	1
Total other assets	$ 9,653	$ 2,913

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Notes to Consolidated Financial Statements

Accrued Liabilities

Accrued liabilities consisted of the following:

	December 31,	
	2021	2022
	(in thousands)	
Compensation and benefits	$ 6,646	$ 8,400
Accrued research and development services ($6.3 million and nil due to related party in 2021 and 2022, respectively)	6,250	889
Accrued clinical trial and preclinical costs	2,920	652
Professional services	2,523	1,187
Other	757	408
Total accrued liabilities	$ 19,096	$ 11,536

7. Acquisitions of Assets

BlackThorn Therapeutics, Inc.

In June 2020, the Company entered into an agreement and plan of merger (BlackThorn Merger Agreement) to acquire all of the equity interests of BlackThorn Therapeutics, Inc. (BlackThorn), which became effective in September 2020. The Company acquired BlackThorn for its in-process research and development programs, including an antagonist of the Kappa Opioid Receptor (NMRA-140) for the treatment of major depressive disorders and an antagonist of the Vasopressin 1a Receptor (NMRA-511) for the treatment of anxiety disorders. The Company also gained access to a cloud-based computational psychiatry and data platform that was being developed to support drug target identification, patient stratification and objective clinical trial endpoints. Both NMRA-140 and NMRA-511 were exclusively licensed to BlackThorn by The Scripps Research Institute (TSRI). The acquisition was accounted for as an acquisition of assets.

The BlackThorn Merger Agreement requires the Company to pay the former stockholders of BlackThorn contingent consideration (i) with respect to NMRA-140, in the form of development and regulatory approval milestones of up to an aggregate amount of $365.0 million, which includes a milestone payment of $90.0 million that will become due upon dosing the first patient in the Phase 3 clinical trial for NMRA-140, and sales-based milestones of up to an aggregate amount of $450.0 million and (ii) with respect to NMRA-511, in the form of development and regulatory approval milestones of up to an aggregate amount of $100.0 million, and sales-based milestones of up to an aggregate amount of $100.0 million (BlackThorn Milestones). At the Company's sole discretion, the BlackThorn Milestone payments may be settled in cash or shares of the Company, or a combination of both, subject to the provisions of the BlackThorn Merger Agreement, other than one development milestone in the amount of $10.0 million, which must be settled in cash. None of the BlackThorn Milestones were subject to liability classification and/or derivative accounting and any such contingent consideration will be recognized when the contingency is resolved, and the consideration becomes payable. For the year ended December 31, 2021, and 2022, no such amounts were deemed due or payable.

BlackThorn Carveout Plan

The BlackThorn Merger Agreement required that the Company establish a carveout plan (the BlackThorn Carveout Plan), pursuant to which each BlackThorn stock option holder as of immediately prior to the closing date was allocated a certain number of units (the BlackThorn Carveout Units) based on the number of shares underlying the outstanding options held by each participant at that time. Each BlackThorn Carveout Unit represents a right to receive a portion of the BlackThorn Milestone payment (the BlackThorn Carveout Payments) upon the later of (i) the achievement of a BlackThorn Milestone and (ii) the vesting of the BlackThorn Carveout Unit.

The BlackThorn Carveout Units vest based on time-based schedules that mirror the vesting schedules for the original option awards held by each participant. As of the closing date in September 2020, a portion of the BlackThorn Carveout Units corresponding to the pre-acquisition service periods were fully vested (Vested Carveout Units). The remainder of the BlackThorn Carveout Units vest subject to the continued service of the participants.

The Vested Carveout Units represent contingent consideration for the acquisition as they are attributable to pre-acquisition services rendered by the participants and continuing service is not required for the participants to receive future payments upon a BlackThorn Milestone being achieved. The Company will recognize the contingent consideration obligation for the Vested Carveout Units when the contingency is resolved, and the consideration becomes payable. The BlackThorn Carveout Units that were unvested as of the Closing Date are dependent on the continued service of participants and were deemed to be a compensation arrangement. The Company will recognize the compensation starting from the time payment becomes probable over each participant’s service period. As of December 31, 2022, none of the BlackThorn Milestones had been achieved or were probable of being achieved, and no contingent consideration obligation or compensation related to the BlackThorn Carveout Plan had been recorded.

Syllable Life Sciences, Inc.

In September 2020, the Company entered into an agreement and plan of merger (Syllable Merger Agreement) to acquire all of the outstanding equity of Syllable Life Sciences, Inc. (Syllable). The Company acquired Syllable to gain access the rights granted to Syllable under an exclusive license agreement (as amended, the Harvard License Agreement) with President and Fellows of Harvard College (Harvard) and an associated behavior analysis machine learning and computer vision software tool which Syllable was developing to identify and quantify behavior as an indicator of neurological conditions. The transaction was accounted for as an acquisition of assets.

The former stockholders of Syllable are entitled to contingent consideration in the form of development milestones of up to an aggregate of $5.0 million (Syllable Milestones). At the Company’s sole discretion, the Syllable Milestone payments may be settled, in cash or shares equity of the Company, or a combination of both, subject to the provisions of the Syllable Merger Agreement and were not subject to liability classification and/or derivative accounting. Any such contingent consideration will be recognized when the contingency is resolved, and the consideration becomes payable. For the year ended December 31, 2021 and 2022, no such amounts were deemed due or payable.

Alairion, Inc.

In November 2020, the Company entered into an agreement and plan of merger (Alairion Merger Agreement) to acquire all of the outstanding equity of Alairion, Inc. (Alairion). The acquisition of Alairion allowed the Company to expand its program pipeline by gaining rights to two preclinical stage research and development programs focused on the treatment of sleep disorders, an H1 receptor antagonist program (the H1 Program) and a GABA receptor positive allosteric modulator program (the GABA Program). The acquisition also provided the Company with access to a license for software that records sleep and related drug discovery and optimization technology platform. The transaction was accounted for as acquisition of assets.

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The holders of Alairion common stock outstanding as of immediately prior to the closing date received non-transferable rights to future milestone payments of up to $33.5 million upon the achievement of specified development events and $135.0 million upon the achievement of specified commercialization events related to the H1 Program and the GABA Program (the Alairion Milestones).

The Alairion Milestone payments may be settled, at the Company's sole discretion, in cash or shares of the Company, or a combination of both, subject to the provisions of the Alairion Merger Agreement. None of the Alairion Milestones were subject to liability classification and/or derivative accounting and any such contingent consideration will be recognized when the contingency is resolved, and the consideration becomes payable. For the year ended December 31, 2021 and 2022, no such amounts were deemed due or payable. In March 2022, the Company paused the active program acquired from Alairion while it assesses pre-IND feedback received from the FDA and considers alternative options for that program.

Alairion Carveout Plan

The Alairion Merger Agreement also required the Company to establish a carveout plan (the Alairion Carveout Plan) pursuant to which a portion of the payments under the Alairion Milestones, up to $3.0 million (the Alairion Carveout Payments), are reserved for participants under the Alairion Carveout Plan. Participants in the Alairion Carveout Plan are comprised of former Alairion employees, several of whom were retained as employees or consultants of the Company post-acquisition. Under the Alairion Carveout Plan, the Company granted the participants retention units, each representing a right to receive future payments upon the completion of Phase 2 clinical studies with respect to either the H1 Program or the GABA Program and achievement of the related Alairion Milestone, subject to the continued service of the participant until such time and were deemed to be a compensation arrangement. The retention units are forfeited if a participant's service is terminated prior to the receipt of results from the Phase 2 clinical studies associated with the H1 Program and GABA Program. The Company will recognize such compensation starting from the time payment becomes probable over each participant's service period. As of December 31, 2022, it was not probable that Phase 2 clinical studies would be achieved, and no compensation related to the Alairion Carveout Plan had been recorded.

Amgen Inc. Licenses

In September 2021, the Company entered into two license agreements with Amgen Inc. (Amgen) pursuant to which it obtained exclusive, worldwide licenses to develop, manufacture, use, commercialize and distribute products containing compounds that are directed to, in one case, CK1d, and in the other case, glucocerebrocidase (GCase), both for the treatment of neurodegenerative diseases (the Amgen License Agreements) and related know-how and clinical material (collectively, the Amgen IPR&D Assets). Concurrently, the Company also executed a research collaboration agreement (see Note 10) as well as a stock purchase agreement (see Note 11) with Amgen. Both of these agreements were deemed to be separate transactions and not accounted for as part of the acquisition of assets. The Company accounted for these transactions as acquisitions of assets.

The total upfront consideration transferred to Amgen of 20.0 million shares of the Company's Series A-2 convertible preferred stock, with an acquisition date fair value of $157.0 million, was allocated to the Amgen IPR&D Assets as the fair value of the equity given was more readily determinable than the fair value of the assets received. The fair value of the Company's Series A-2 preferred stock of $7.85 was established using the price per share paid by third-party investors in the concurrent September 2021 closing of the Series A-2 preferred stock financing.

Under these two license agreements, Amgen is eligible to receive contingent consideration up to an aggregate of $360.0 million in commercial milestone payments per product payable in cash with a compound directed to

CK1d and up to an aggregate of $360.0 million in commercial milestone payments per product payable in cash with a compound directed to GCase, in each case, upon the achievement of certain sales thresholds and single digit royalties on potential future net sales, related to CK1d or GCase. Such contingent consideration was not subject to liability classification and/or derivative accounting and will be recognized when the contingency is resolved, and the consideration becomes payable. For the year ended December 31, 2022, no such amounts were deemed due or payable.

In addition, until a specified period of time following the achievement of the first successful Phase 2 clinical trial for any licensed product, if the Company chooses to sell, transfer, sublicense or divest rights to a licensed product in certain major markets, Amgen has a 90-day exclusive right of first negotiation to enter into an agreement with the Company for such rights. The Company determined that these rights of first negotiation were not freestanding instruments from the Amgen License Agreements and did not meet the definition of a derivative.

Vanderbilt License

In February 2022, the Company and Vanderbilt University (Vanderbilt) entered into a license agreement (Vanderbilt License Agreement). Pursuant to the Vanderbilt License Agreement, the Company obtained an exclusive, worldwide, royalty-bearing, sublicensable (subject to certain restrictions) license under certain patent rights and a non-exclusive, worldwide, royalty-bearing, sublicensable (subject to certain restrictions) license under certain know-how covering small molecule positive allosteric modulators (PAMs) predominantly of the muscarinic acetylcholine receptor subtype 4 (M4) to develop, manufacture, and commercialize products, processes and services covered by such patent rights or that incorporate or use such know-how, for any and uses (the Vanderbilt IPR&D Assets). Concurrently, the Company also executed a sponsored research agreement (see Note 10) with Vanderbilt. The sponsored research agreement was deemed to be separate transactions and not accounted for as part of the acquisition of assets. The acquisition of the Vanderbilt IPR&D Assets became effective in February 2022.

The licensed patent rights are subject to Vanderbilt's right to use the patent rights for research, internal non-commercial use, and educational purposes. The Company intends to develop the PAMs for the treatment of schizophrenia and other neuropsychiatric disorders. The Company has agreed to use commercially reasonable efforts to develop and commercial licensed products, and to achieve certain development milestones.

The Company paid Vanderbilt a non-refundable, non-creditable upfront cash payment of $13.0 million for the Vanderbilt IPR&D Assets, which was immediately recognized as acquired in-process research and development expense in the consolidated statement of operations and comprehensive loss as it was determined to have no alternative future use as of the acquisition date. Under the Vanderbilt License Agreement, Vanderbilt is eligible to receive contingent consideration payable in cash up to an aggregate of $42.0 million upon the achievement of specified development milestones and up to an aggregate of $380.0 million upon the achievement of commercial milestone events as well as and tiered royalties at mid-single digit percentages on potential future net sales, subject to specified reductions for the lack of patent coverage, generic entry and payment obligations for third-party licenses. In addition, the Company is obligated to pay Vanderbilt low-double-digit percentage of sublicense income it receives for sublicenses entered into before the achievement of a specified event. Such contingent consideration was not subject to liability classification and/or derivative accounting and will be recognized when the contingency is resolved, and the consideration becomes payable. For the year ended December 31, 2022, no such amounts were deemed due or payable.

In addition, the Company also has an exclusive option, exercisable for a specified period of time, to negotiate an exclusive license to certain patent rights conceived or developed by Vanderbilt in the course of carrying out the sponsored research pursuant to a sponsored research agreement the between the Company and Vanderbilt, which was entered into at the same time as the Vanderbilt License Agreement. The Company determined that the right to negotiate was not a freestanding instrument from the Vanderbilt License Agreement and did not meet the definition of a derivative.

8. Convertible Promissory Notes

Concurrent with the issuance of the convertible promissory notes in 2020 that were settled in September 2020 with shares of the Company's Series A-2 convertible preferred stock, the Company also issued shares of its common stock to certain of the holders in return for commitments to participate in the Company's Series A-2 convertible preferred stock financing. Such shares of common stock were subject to the investors' right of forfeiture that lapsed upon fulfillment of their respective commitments to the Company in one or more subsequent closings of the Company's Series A-2 convertible preferred stock financing. The funding commitments, together with the embedded shares of common stock, were determined to be freestanding instruments apart from the convertible promissory notes (the funding commitment asset or FCA). The Company determined that the FCA (i) did not meet the criteria to be classified as a liability on its consolidated balance sheets, (ii) qualified for a scope exception from derivative accounting, and (iii) was not required to be measured at fair valued at inception (or subsequently). Accordingly, the proceeds received from the convertible promissory notes were allocated to the FCA on a residual basis, and such residual value was determined to be insignificant at inception.

In August 2021, the FCA held by one investor to purchase 1,274,486 shares of the Company's Series A-2 convertible preferred stock was met and the related right of forfeiture lapsed as to the 955,864 shares of common stock held by such investor (see Note 11).

9. Commitments and Contingencies

Operating Leases

Lease Agreement

The Company has operating lease arrangements for office and laboratory spaces located in Massachusetts and California with noncancelable lease terms expiring between 2023 and 2025. These leases require monthly lease payments that may be subject to annual increases throughout the lease term.

In March 2021, the Company entered into a lease agreement for a 14,688 square feet office facility in South San Francisco, California (SSF Lease). The SSF Lease commenced in April 2021 and expires in December 2023.

In May 2022, the Company executed a sublease agreement for a 30,067 square feet office and laboratory facility in Watertown, Massachusetts. The term of the sublease commenced in June 2022 with respect to the office space and commenced in August 2022 with respect to the laboratory space. The term of the sublease expires in June 2025. A letter of credit was executed in connection with this sublease agreement that resulted in an increase in restricted cash on the consolidated balance sheet as of December 31, 2022.

Under the lease agreements, the Company is generally required to pay certain operating costs, in addition to rent, such as common area maintenance, taxes, utilities and insurance. Such additional charges are considered variable lease costs and are recognized in the period in which they are incurred. Rent expense for the year ended December 31, 2021 was $2.0 million, including $0.9 million related to short term lease expense, and variable costs were $0.2 million. Rent expense for the year ended December 31, 2022 was $3.5 million, including $1.1 million related to short term lease expense, and variable costs were $0.1 million.

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The Company's operating leases include various covenants, indemnities, defaults, termination rights, security deposits and other provisions customary for lease transactions of this nature.

The maturity of the Company's operating lease liabilities as of December 31, 2022 were as follows (in thousands):

Undiscounted lease payments	
2023	$ 4,030
2024	3,606
2025	1,834
Total undiscounted lease payments	9,470
Less: Imputed interest	(1,028)
Operating lease liabilities	8,442
Less: Operating lease liabilities, current portion	3,370
Operating lease liabilities, net of current portion	$ 5,072

Supplemental information on the Company's operating leases was as follows:

	Year Ended December 31,	
	2021	2022
Cash paid for operating lease agreements (in thousands)	$ 1,115	$ 2,486
Weighted average remaining lease term (in years)	1.8	2.4
Weighted-average discount rate	10.0%	10.0%

In August 2022, the Company and a lessor mutually terminated a lease agreement for office and laboratory space in Watertown, Massachusetts. As a result, the Company derecognized an operating lease liability and right-of-use asset of $0.7 million and $0.6 million, respectively, and recognized an immaterial gain on termination of the lease.

Indemnification

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend an indemnified party for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third-party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. The Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. The Company has also entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers to the fullest extent permitted by Delaware corporate law. The Company currently has directors' and officers' insurance.

Other Commitments

The Company has various manufacturing, clinical, research and other contracts with vendors in the conduct of the normal course of its business. Such contracts are generally terminable with advanced written notice and payment for any products or services received by the Company through the effective time of termination and any non-cancelable and non-refundable obligations incurred by the vendor at the effective time of the termination. In the case of terminating a clinical trial agreement at a particular site, the Company would also be obligated to provide continued support for appropriate medical procedures at that site until completion or termination.

10. Strategic License and Research and Collaboration Agreements

2015 TSRI License Agreement

In connection with the acquisition of BlackThorn (see Note 7), the Company gained certain exclusive rights to intellectual property related to Kappa Opioid Receptor and V1aR Receptor Antagonist programs as well as an oxytocin receptors positive allosteric modulator program (collectively, the TSRI Programs) under a license agreement between BlackThorn and TSRI originally entered into in November 2015 (as amended, the 2015 TSRI License Agreement). The technology licensed under the 2015 TSRI License Agreement is used in the Company's NMRA-140 and NMRA-511 research and development programs.

Pursuant to the 2015 TSRI License Agreement, the Company is obligated, among other things, to pay TSRI (i) a nominal annual license fee due and payable on the first day of each calendar year and after the fourth anniversary creditable against any royalties due for such calendar year, (ii) development and regulatory milestone payments of up to $1.5 million in aggregate for the first product from each TSRI Program, which are contingent upon achieving specific development and regulatory milestone events, (iii) commercial milestone payments of up to $3.5 million in aggregate for each occurrence, which are contingent upon achieving specified commercialization milestone events, (iv) tiered low-single digit royalties on future net sales of each royalty-bearing product and (v) a percentage ranging from the mid-single digits to sub teen double digits of any sublicensing revenues the Company receives. As of December 31, 2022, none of the milestones had been achieved and no royalties were due under the 2015 TSRI License Agreement.

Harvard License Agreement

In connection with the acquisition of Syllable (see Note 7), the Company gained exclusive rights covering certain behavior imagining and behavioral tracking software under a license agreement between Syllable and Harvard originally entered into in June 2020. The Company uses the technology licensed under the Harvard License Agreement to advance its precision neuroscience approach.

Under the Harvard License Agreement, the Company is obligated, among other things, to pay Harvard (i) nominal annual license maintenance fees that are creditable against any royalty amounts payable for licensed products sold in the same year, (ii) mid-single digit royalties on future net sales of each royalty-bearing product that utilizes the licensed technology, and (iii) a portion of any sub licensing revenues the Company receives ranging from the high teens to low-double digits. As of December 31, 2022, none of the milestones had been achieved and no royalties were due under the Harvard License Agreement.

In addition, the Harvard License Agreement, as amended in March 2021, provided for certain development milestones that the Company is required to meet between December 2021 and January 2024. Failure to meet such milestones constitutes a material breach of contract and would provide Harvard with the right to terminate the agreement subject to the notification and cure periods. As of December 31, 2022, the Company had not met the December 2021, January 2022, or July 2022 milestones. As of the date these consolidated financial statements were available for issuance, Harvard and the Company had agreed to terminate the agreement, effective as of March 31, 2023.

Research and Collaboration Agreement with Amgen

In September 2021, and concurrently with the Amgen License Agreements (see Note 7), the Company entered into a research collaboration agreement with Amgen (Amgen Collaboration Agreement) to collectively discover drug targets, biomarkers, and other insights associated with central nervous system (CNS) diseases utilizing Amgen's deCODE genetics and human data research capabilities. The Company received exclusive rights under intellectual property generated in the collaboration to exploit therapeutic compounds and diagnostics for use with therapeutics in the CNS field and Amgen received exclusive rights to exploit therapeutic compounds and diagnostics for use with therapeutics outside of the CNS field. The agreement is governed by the Joint Research Committee (JRC), which is made up of two representatives from each of the Company and Amgen to manage the progress and direction of research and development activities. All decisions made by the JRC shall be by consensus with each party having one vote, and if the JRC cannot reach a consensus, the dispute shall be referred to each company's executive officers. If the executive officers fail to reach a consensus, the Company will have final decision-making authority provided that the matter does not relate to the approval of, or any material change to, a project, decisions to acquire rights from a third party, decisions or activities that are in conflict with Amgen's database usage or data access rights, or the approval of external costs and expenses relating to certain new data generation activities or certain new dataset acquisitions, as such matters require mutual agreement.

In return for Amgen performing research and development activities under the agreement, the Company is committed to making non-refundable, non-creditable quarterly payments over the first two years totaling $50.0 million and for the third year between $12.5 million and $25.0 million depending on whether certain progress milestones are achieved.

Additionally, the Company will reimburse Amgen for certain direct, out-of-pocket external costs and expenses that are incurred in the performance of the activities under the Amgen Collaboration Agreement.

The term of the agreement is up to five years, although it will terminate after three years if the Company and Amgen do not mutually agree upon a compensation structure for years four and five. If the parties do not reach an agreement at least 30 days prior to the end of year three, the Amgen Collaboration Agreement will automatically terminate upon its third anniversary. Further, either party can terminate the Amgen Collaboration Agreement upon material uncured breach or bankruptcy by the other party, in which case all amounts that have become due through the date of termination are non-refundable.

Amgen also has an exclusive option to negotiate, and the right of first negotiation, to obtain exclusive, worldwide licenses to research, develop, commercialize, and otherwise exploit up to two therapeutic compounds or any pharmaceutical product containing such therapeutic compound arising from the collaboration. That right exists with respect to each compound for up to 60 days following positive Phase 2 results for that compound. The Company determined that these rights were not freestanding instruments from the Amgen Collaboration Agreement and did not meet the definition of a derivative. Upon execution of the Amgen Collaboration Agreement in September 2021, the Company was obligated to start paying Amgen non-refundable quarterly payments of $6.3 million. As of December 31, 2022, the sixth non-refundable quarterly payment of $6.3 million became due and has been recorded within accounts payable. As of December 31, 2021, the related prepaid research and development costs included in the consolidated balance sheet were $4.4 million within prepaid expenses and other current assets and $7.6 million within other assets. As of December 31, 2022, the related prepaid research and development costs included in the consolidated balance sheet were $11.9 million within prepaid expenses and other current assets. The Company recorded $0.5 million and $25.1 million of related research and development expenses during the year ended December 31, 2021 and 2022, respectively.

Sponsored Research Agreement with Vanderbilt

In February 2022, and concurrently with the Vanderbilt License Agreement (see Note 7), the Company entered into a sponsored research agreement with Vanderbilt (Vanderbilt Research Agreement), pursuant to which Vanderbilt agreed to provide the Company research services to develop a M4 PAM back-up program.

The agreement is governed by the Joint Steering Committee (JSC) which is made up of three representatives from each of the Company and Vanderbilt to manage the progress and direction of research and development activities. All decisions made by the JSC shall be by consensus with each party having one vote, and if the JSC cannot reach a consensus, then (i) each party shall make the final decision on non-strategic, day to day, operational matters related to the implementation of research program activities conducted, managed, controlled or directed by such party, and (ii) the Company will have final decision-making authority with respect to material operation and strategic decisions.

In return for Vanderbilt performing research and development activities under the agreement, the Company agreed to make quarterly payments for research up to a total of $1.7 million. The term of the agreement is one year. Either party may terminate the agreement upon 60 days' written notice, subject to the Company paying reasonable costs incurred by Vanderbilt to wind-down the program and all costs incurred and non-cancellable commitments made prior to the termination date.

In addition, the Company also has an exclusive option to negotiate an exclusive license to certain patent rights conceived or developed by Vanderbilt in the course of carrying out the sponsored research (see Note 7).

11. Convertible Preferred Stock and Stockholders' Deficit

Convertible Preferred Stock

In September 2020, the Company executed a preferred stock purchase agreement (the Series A SPA) and issued 15,755,181 shares of its Series A-2 convertible preferred stock at $7.85 per share for aggregate proceeds of $123.6 million in the initial closing of its Series A-2 convertible preferred stock financing. Concurrent with the initial closing, the Company acquired a legal entity through the issuance of 5,097,944 shares of its Series A-2 convertible preferred stock and 1,274,486 shares of its common stock. The entity did not meet the definition of a business and its sole asset was cash. As a result, the shares of the Company's Series A-2 convertible preferred stock and common stock were recognized at their relative fair values for $39.5 million of cash obtained in the transaction. The Company also issued 7,542,434 shares of its Series A-2 convertible preferred stock upon settlement of convertible promissory notes (see Note 8).

In addition, in September 2020, the Company issued an aggregate of 5,757,901 and 1,898,657 shares of its Series A-1 convertible preferred stock and Series A-2 convertible preferred stock, respectively, as consideration for various acquisitions of assets (see Note 7).

In accordance with the terms of the Series A SPA, the Company was also committed to selling 5,097,944 additional shares of its Series A-2 convertible preferred stock to one investor who is a related party at a fixed price of $7.85 per share in one or more subsequent closings on or before March 8, 2021. The Company determined that its obligation to issue additional shares of Series A-2 convertible preferred stock in subsequent closings was a freestanding financial instrument that should be classified as a liability (the convertible preferred stock tranche liability) in the consolidated balance sheets and remeasured to fair value during the reporting period with any changes in fair value being recognized in the consolidated statements of operations and comprehensive loss. The fair value of convertible preferred stock tranche liability was determined to be de minimis on issuance in September 2020 and through the date of settlement in September 2021 because of (i) the original expected short-term nature of the obligation and (ii) the absence of significant business activities or events during the period from issuance to settlement that could have significantly impacted the value of the Company. Furthermore, additional third-party investors participated in the closing of the Company's subsequent Series A-2 convertible preferred stock financing completed in September 2021, which indicated a fair value of $7.85 per share.

Pursuant to the Series A SPA, a forfeiture provision was added to the terms of 4,248,286 shares of the Company's common stock previously issued in January 2020 to the same investor and related party that the Company committed to selling 5,097,944 additional shares of Series A-2 convertible preferred stock, of which the forfeiture provision for 2,548,972 shares lapsed upon execution of the Series A SPA in September 2020 and 1,699,314 remained subject to the forfeiture provision until the occurrence of one or more subsequent closings. The Company determined there was no accounting impact because it did not result in a transfer of value from the Company's common stockholders to its preferred stockholders.

In connection with the acquisition of Alairion in November 2020 (see Note 7), an existing stockholder of both Alairion and the Company purchased a total of $12.0 million of Alairion convertible notes immediately prior to the closing date that were settled with 1,529,383 shares of the Company's Series A-2 convertible preferred stock upon closing.

Between March and July 2021, the Company and certain of its investors entered into a series of amendments to the Series A SPA to extend the deadline to complete subsequent closings of its Series A-2 convertible preferred stock from March 2021 to September 2021. The Company determined that such amendments to the Series A-2 convertible preferred stock represented modifications and no incremental expense would be recorded as the difference between the fair values of the Series A-2 convertible preferred stock immediately before and after the amendments were insignificant. Concurrently, the lapse of right of forfeiture with respect to 1,699,314 shares of the Company's common stock held by a related party investor was extended to September 2021.

Between August and September 2021, pursuant to the Series A SPA, as amended, the Company issued 24,374,542 shares of its Series A-2 convertible preferred stock, including 18,002,112 shares to new investors and 6,372,430 shares to two existing investors, one of whom was a related party, at a price of $7.85 per share for aggregate proceeds of $191.3 million (the Series A Final Closing). Upon the Series A Final Closing, the right of forfeiture 1,699,314 shares of the Company's common stock held by one related party investor lapsed and the convertible preferred stock tranche liability was settled. Immediately prior to settlement, the convertible preferred stock tranche liability was remeasured to fair value and was determined to be de minimis because the fixed price of $7.85 per share at which the Company was obligated to issue additional shares of its Series A-2 convertible preferred stock represented fair value as it was the same price per share paid by third-party investors who participated in the Series A Final Closing.

Concurrent with the Series A Final Closing, the Company entered into side letter agreements with three new investors, whereby the Company, amongst other things, granted such investors rights to access certain information and notices, concurrently with and in the same manner as the members of the board of directors or a major investor.

In September 2021, Amgen purchased 12,744,860 shares of the Company's Series A-2 convertible preferred stock at a purchase price of $7.85 per share, for aggregate proceeds of $100.0 million. Concurrent with the sale of the shares, Amgen and the Company entered into an agreement that limits Amgen's right to vote as it relates to all matters presented to the Company's stockholders under its Amended and Restated Certificate of

Incorporation, By-Laws, Series A SPA and related agreements governing investors' rights, except for matters pertaining to the amendment, waiver, and termination of such agreements (the Amgen Voting Rights Letter Agreement). Such voting limitations apply when Amgen's ownership interest in the Company's outstanding voting securities exceeds 19.9% of the Company's total outstanding voting securities or voting power of outstanding single classes or series of the Company's stock (the Voting Threshold) and remain in effect until an the first to occur of an IPO, the Company becomes subject to period reporting under the Securities Exchange Act, a deemed liquidation event, or a transaction with a special purpose acquisition company (SPAC).

Subject to certain conditions, (a) upon the Company's commencement of a Phase 2 clinical study of a Company controlled molecule or the in-licensing or acquisition of a Phase 2 ready or later-stage molecule (the Future Financing Milestone), Amgen is also obligated to provide the Company additional financing of up to $100.0 million by participating in up to two future financings of the Company, in each case by purchasing up $50.0 million in equity (or equity-linked) securities on the same terms and conditions of at least a matching dollar equivalent by one or more third party, and (b) in the event that, prior to the achievement of any Future Financing Milestone, the Company consummates an IPO or a SPAC transaction, Amgen shall (i) purchase up to $30.0 million of shares in an IPO of the Company, in no case greater than 20% of the total gross proceeds of the IPO, or (ii) purchase up to $30.0 million of shares in a SPAC of the Company, in no case greater than 20% of the shares of capital stock of the SPAC (collectively, the Future Financing). The Future Financing is a freestanding financial instrument and is not subject to liability classification and/or derivative accounting. The value of the Future Financing was determined to be de minimis at issuance and as of December 31, 2021 and 2022, as it would be settled based on the same terms and conditions other third parties will receive.

In September 2022, the Company executed a preferred stock purchase agreement (the Series B SPA) and issued 7,425,572 shares of its Series B convertible preferred stock, including 1,274,486 shares to a new investor and 6,151,086 shares to existing investors, two of whom were related parties, at $11.77 per share for aggregate proceeds of $87.4 million in the initial closing of its Series B convertible preferred stock financing (the Series B Initial Closing). The Series B SPA provides that within 90 days of the Series B Initial Closing, the Company may issue and sell on the same terms and conditions, additional shares of its Series B convertible preferred stock to one or more purchasers (Series B Subsequent Closing). The Series B Subsequent Closing is at the option of the Company and therefore was not determined to be a commitment by the Company that is subject to liability classification and/or derivative accounting.

In October 2022, the Series B Subsequent Closing occurred, and the Company issued an additional 2,124,143 shares of its Series B convertible preferred stock to a new investor at $11.77 per share for aggregate proceeds of $25.0 million.

In connection with the Series B SPA, the Company entered into side letter agreements with four investors, whereby the Company, amongst other things, granted or clarified such investors rights to access certain information and notices, concurrently with and in the same manner as a major investor.

As of December 31, 2021, the Company's convertible preferred stock consisted of the following:

	Shares Authorized	Shares Issued and Outstanding	Carrying Value	Liquidation Preference
	(in thousands)			
Series A-1	48,000	5,758	$ 36,595	$ 45,178
Series A-2	707,000	88,952	693,263	697,948
Total convertible preferred stock	755,000	94,710	$ 729,858	$ 743,126

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As of December 31, 2022, the Company's convertible preferred stock consisted of the following:

	Shares Authorized	Shares Issued and Outstanding	Carrying Value	Liquidation Preference
	(in thousands)			
Series A-1	47,471	5,915	$ 38,208	$ 46,413
Series A-2	697,948	88,952	693,263	697,948
Series B	74,930	9,550	112,216	112,395
Total convertible preferred stock	820,349	104,417	$ 843,687	$ 856,756

The holders of the Company's convertible preferred stock have the following rights, preferences, and privileges:

Dividends

The holders of each series of convertible preferred stock are entitled to non-cumulative dividends at an annual rate of 6.0% of the original issue price when and if declared by the Company's board of directors. The dividend rate is subject to adjustment if the Company undertakes any stock splits, stock dividends, combinations, subdivisions, or recapitalization events. Holders of Series B convertible preferred stock and Series A-2 convertible preferred stock are entitled to dividends prior and in preference to any declaration or payment of any dividend to holders of Series A-1 convertible preferred stock and common stock. Holders of the Series A-1 convertible preferred stock are entitled to dividends prior and in preference to any declaration or payment of any dividend to holders of common stock. No dividends have been declared or paid as of December 31, 2022.

Liquidation Distributions

In the event of any liquidation, dissolution, or winding up of the Company, either voluntary or involuntary, the holders of the then outstanding Series B convertible preferred stock and Series A-2 convertible preferred stock shall be entitled to receive, prior and in preference to any distribution of any of the assets of the Company to the holders of the Series A-1 convertible preferred stock and common stock, a liquidation preference in an amount per share equal to the original issue price (as adjusted for stock splits, stock dividends, and recapitalizations) plus all declared but unpaid dividends on such shares. The holders of the then outstanding Series A-1 convertible preferred stock shall be entitled to receive, prior and in preference to any distribution of any of the assets of the Company to the holders of the common stock, a liquidation preference in an amount per share equal to the original issue price (as adjusted for stock splits, stock dividends, and recapitalizations) plus all declared but unpaid dividends on such shares. Thereafter, any remaining assets of the Company will be distributed, on a pari passu basis, among the holders of the common stock. If the assets and funds available to be distributed to the stockholders shall be insufficient to permit the payment, in full, of any of the liquidation preferences, then the entire assets and funds legally available for distribution to the convertible preferred stock shall be distributed ratably among the holders of convertible preferred stock based on the total number of shares held by each holder.

Voting Rights

The holder of each share of convertible preferred stock is entitled to one vote for each share of common stock into which it would convert. Except as provided by law or other provisions in the Company's Amended and Restated Certificate of Incorporation, the holders of the convertible preferred stock shall vote together with the holders of the common stock as a single class on an as-converted basis. So long as 1,274,486, 2,039,177 and 6,372,430 shares of Series B convertible preferred stock, Series A-2 convertible preferred stock, and common stock, respectively, remain outstanding, then (i) the holders of such Series B convertible preferred stock, exclusively, are entitled to elect one director of the Company, (ii) the holders of such Series A-2 convertible preferred stock, exclusively, are entitled to elect three directors of the Company, (iii) the holders of the Company's common stock, exclusively, are entitled to elect one director of the Company, and (iv) the holders of the Series B convertible preferred stock, Series A-2 convertible preferred stock and common stock, voting together as a single class on an as-converted basis, are entitled to elect four directors of the Company. The holders of the Series A-1 convertible preferred stock are not entitled to elect directors of the Company.

Conversion Rights

The shares of convertible preferred stock are convertible into shares of common stock at the option of the holder, at any time after the date of issuance of such shares, determined by dividing the original issue price per share by the conversion price in effect at the time of conversion. As of December 31, 2022, the applicable conversion price was $11.77 per share for Series B convertible preferred stock, $7.85 per share for Series A-2 convertible preferred stock and $7.85 per share for Series A-1 convertible preferred stock. The conversion price shall be subject to adjustments for stock splits, stock dividends, combinations, subdivisions, or recapitalization events. In addition, if the Company should issue convertible preferred stock or common stock without consideration or for a consideration per share less than the conversion price for the convertible preferred stock, the conversion price for each series shall automatically be adjusted in accordance with anti-dilution provisions contained in the Company's Amended and Restated Certificate of Incorporation. Each share of convertible preferred stock shall automatically convert into common stock immediately upon (i) the closing of the sale of common stock in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $30.0 million of gross proceeds to the Company (a Qualified IPO), or (ii) the occurrence of an event, specified by vote or written consent of the holders of a majority of the then-outstanding shares of Series B convertible preferred stock and Series A-2 convertible preferred stock.

Redemption Rights

Each share of Series B convertible preferred stock, Series A-2 convertible preferred stock and A-1 convertible preferred stock is not mandatorily redeemable.

Registration Rights

Under the Company's investors' rights agreement, certain holders of the Company's convertible preferred stock and common stock have the right to demand that the Company file a registration statement or request that their shares be covered by a registration statement that the Company is otherwise filing. Holders of the Company's convertible preferred stock have the right to request the Company to file certain registration statements with the SEC for the registration of shares related to the convertible preferred stock. The obligations of the Company regarding such registration rights include, but are not limited to, commercially reasonable efforts to cause such registration statement to become effective, keep such registration statement effective for up to 120 days, prepare and file amendments and supplements to such registration statement and the prospectus used in connection with such registration statement, and furnish to the selling holders copies of the prospectus and any other documents as they may reasonably request. The terms of the registration rights provide for the payment of certain expenses related to the registration of the shares, including a capped reimbursement of legal fees of a single special counsel for the holders of the shares, but do not impose any obligations for the Company to pay additional consideration to the holders in case a registration statement is subsequently withdrawn at the request of the holders.

Common Stock

In October 2022, the Company's board of directors approved a certificate of amendment to the Company's amended and restated certificate of incorporation which, among other things, (i) increased the authorized number of shares of the Company's common stock to 1,210,000,000 shares and (ii) increased the authorized number of shares of the Company's convertible preferred stock to 820,348,942 shares.

The holders of the Company's common stock are entitled to one vote per share on all matters to be voted on by the stockholders of the Company and are entitled to dividends, if and when declared by the Company's board of directors, subject to the prior rights of the preferred stockholders. Common stock outstanding in the consolidated balance sheet and consolidated statement of convertible preferred stock and stockholders' deficit as of December 31, 2022 includes 3,117,769 shares of restricted stock that vest based on service conditions and are subject to the Company's right of repurchase upon termination of services and 892,136 shares of restricted stock that vest based on performance conditions (see Note 13). Common stock reserved for future issuance as of the period indicated consisted of the following:

	December 31, 2022
Shares reserved for conversion of outstanding convertible preferred stock	104,417
Shares reserved for options to purchase common stock under the Plans	9,379
Shares reserved for issuance under the Plans	6,344
Total	120,140

In addition, the Company may be required to issue additional shares of its capital stock if certain milestone conditions are met pursuant to the contingent consideration and compensation arrangements associated with the Company's acquisitions of assets (see Note 7). As of December 31, 2022, the milestone conditions are not probable of being met and no shares have been reserved for potential future issuances.

In March 2021, the Company sold 382,345 shares of its common stock to a co-founder for the benefit of an existing investor in the Company at a purchase price of $2.52 per share, or $1.0 million in the aggregate.

12. Preferred Stock Warrants

In September 2020, in connection with the BlackThorn acquisition, the Company issued preferred stock warrants to purchase up to 292,193 shares of Series A-1 convertible preferred stock with an exercise price of $10.60 per share. In December 2022, 210,481 preferred stock warrants were exercised and the remaining 81,712 preferred stock warrants expired as of December 31, 2022. The Company issued 157,371 shares of Series A-1 convertible preferred stock, including 104,563 to a related party, upon the exercise and net exercise of preferred stock warrants.

13. Stock-Based Compensation

2020 Equity Incentive Plan

In January 2020, the Company adopted the 2020 Equity Incentive Plan (the 2020 Plan) that provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit, and other stock-based awards to employees, directors, and non-employee service providers of the Company. Under the 2020 Plan, the exercise price of stock options granted shall not be less than 100% of the estimated fair market value of the Company's common stock on the date of grant. The contractual term of stock options granted under the 2020 Plan shall not exceed ten years. Additionally, the exercise price of any stock options granted to a 10% stockholder shall not be less than 110% of the fair market value of the common stock on the date of grant, and the term of such option grant shall not exceed five years. Subject to approval by the Company's board of directors at the grant date, stock options may include an early exercise feature whereby such option shall be exercisable at any time, subject to the Company's right to repurchase any unvested portion at the original exercise price upon termination of employment of an option holder. Options and other equity awards become vested and, if applicable, exercisable based on terms determined by the Company's board of directors or other plan administrator on the date of grant. The Company also has the right of first refusal to purchase any proposed disposition of shares issued under the 2020 Plan. Any shares issued pursuant to unvested stock options are restricted and subject to repurchase by the Company until the conditions for vesting are met. The amounts paid for shares purchased under an early exercise of stock options and subject to repurchase by the Company are reported as a liability and reclassed to stockholders' deficit once those shares vest.

As of December 31, 2022, 17,575,038 shares of the Company's common stock were authorized for issuance under the 2020 Plan, of which 6,343,607 shares remained available for future grants.

2015 Equity Incentive Plan

Upon the closing of the BlackThorn acquisition in September 2020, the Company assumed BlackThorn's 2015 Equity Incentive Plan (the 2015 Plan, and collectively with the 2020 Plan, the Plans), pursuant to which outstanding stock options previously granted under the 2015 Plan converted into stock options to purchase common stock of the Company, which remain subject to the terms and conditions of the 2015 Plan. As of December 31, 2022, 297,002 shares of the Company's common stock were authorized for issuance under the 2015 Plan. The 2015 Plan was suspended in connection with the closing of the acquisition of BlackThorn in September 2020.

Stock Option Activity

The following table summarizes stock option activity under the Plans:

	Outstanding Stock Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
	(in thousands, except per share amounts and years)			
Outstanding as of December 31, 2021	5,979	$ 2.97	9.1	$ 10,614
Granted	4,692	4.52		
Exercised	(1,198)	3.33		
Canceled and forfeited	(882)	2.77		
Expired	(21)	3.98		
Outstanding as of December 31, 2022	8,570	$ 3.79	8.2	$ 24,085
Vested as of December 31, 2022	2,065	$ 3.42	8.0	$ 7,076
Exercisable as of December 31, 2022	2,336	$ 3.31	8.1	$ 7,681

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The aggregate intrinsic value of stock options outstanding, exercisable, vested and exercisable is calculated as the difference between the exercise price of the underlying stock options, and the fair value of the Company's common stock, as determined by the Company's board of directors.

The weighted-average grant-date fair value per share of stock options granted during the year ended December 31, 2021 and 2022 was $2.91 and $3.77 per share, respectively. The total grant-date fair value of options that vested during the year ended December 31, 2021 and 2022 was $2.3 million and $5.2 million, respectively.

The stock option activity table above excludes options to purchase 363,227 shares of the Company's common stock issued to the Company's scientific advisors which vest based on the achievement of certain performance conditions to be separately defined and approved by the Company's board of directors. As the performance conditions had not been determined as of December 31, 2022, the criteria for establishing a grant date, and accordingly a measurement date, were not met as of that date.

The stock option activity table above also excludes options granted to purchase 446,068 shares of common stock that have market and performance conditions granted to one of the Company's executives (and discussed below).

Fair Value of Stock Options

The fair value of stock options granted for employee and non-employee awards was estimated at the grant date using the Black-Scholes option pricing model based on the following assumptions:

	Year Ended December 31,	
	2021	2022
Expected volatility	90.6% – 96.5%	87.2% – 91.1%
Expected term (years)	5.0 – 7.1	4.5 – 6.5
Risk-free interest rate	0.7% – 1.4%	1.7% – 4.2%
Expected dividend yield	— %	— %

Expected volatility—As there is no trading history for the Company's common stock, the Company has determined expected volatility based on the average historical stock price volatility of comparable publicly-traded companies and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded stock price. The comparable companies are chosen based on their similar size, stage in the life cycle or area of therapeutic focus. The historical volatility is calculated based on a period of time commensurate with the expected term assumption.

Expected term—The expected term of the Company's stock options has been estimated using the simplified method for awards that qualify as plain-vanilla stock options. The simplified method calculates the expected term as the average of the time-to-vesting and the contractual life of the stock options.

Risk-free interest rate—The risk-free interest rate assumption was based on the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award.

Expected dividend yield—The expected dividend yield assumption is zero as the Company has never paid and has no plans to pay dividends on its common stock in the foreseeable future.

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Early Exercise of Employee Stock Options

The Company's 2020 Plan allows certain employees to exercise their stock options prior to vesting into shares of restricted common stock. The proceeds from early exercised stock options are recorded as liabilities in the consolidated balance sheets at the time of exercise and reclassified to common stock and additional paid-in capital as the underlying stock options vest and the Company's repurchase right lapses. During the year ended December 31, 2021, the Company issued 562,684 shares of restricted common stock upon the early exercise of unvested stock options subject to service based vesting conditions for total cash proceeds received of $1.4 million at a weighted-average exercise price of $2.52 per share. During the year ended December 31, 2022, the Company issued 441,923 shares of restricted common stock upon the early exercise of unvested stock options subject to service based vesting conditions for total cash proceeds received of $2.1 million at a weighted-average exercise price of $4.63 per share. As of December 31, 2022, 531,987 shares of restricted common stock remained outstanding and unvested.

Restricted Stock Awards

The Company's 2020 Plan allows for the grant of restricted common stock to certain employees, executives, non-employee scientific advisors, and third-party service providers. The restrictions lapse over time primarily according to service-based vesting conditions of each award. In the event of a voluntary or involuntary termination of the holder's continuous provision of services to the Company, any unvested portion of the restricted stock award are automatically forfeited.

The following table summarizes the Company's restricted stock activity:

	Shares	Weighted-Average Grant Date Fair Value Per Share
	(in thousands, except per share amounts)	
Outstanding and unvested as of December 31, 2021	5,000	$ 0.24
Granted	382	6.52
Vested	(2,432)	0.39
Forfeited	(48)	2.75
Outstanding and unvested as of December 31, 2022	2,902	$ 0.90

The restricted stock activity table above excludes 509,792 shares of restricted common stock issued to certain of the Company's scientific advisors which vest based on the achievement of certain performance conditions to be separately defined and approved by the Company's board of directors. As the performance conditions had not been determined as of December 31, 2022, the criteria for establishing a grant date, and accordingly a measurement date, were not met as of that date.

Award with Market Conditions

In June 2021, the Company granted stock options to purchase 446,068 shares of its common stock to one of its executive officers with an exercise price of $2.52 per share that contain both market and service conditions (the Market Award). Subject to the holder's continued service, the Market Award provided for vesting in four equal tranches once the Company's stock price exceeded certain thresholds. The original grant-date fair value of the Market Award of $0.9 million was determined using a Monte Carlo simulation model using an expected volatility of 100.0% and risk-free rate of 1.6%.

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In January 2022, the Company amended the terms of the Market Award such that the award will vest in three modified tranches. One tranche of 223,034 stock options is based on a performance condition and two tranches of 111,517 stock options each are based on revised Company stock price thresholds and/or vesting schedules, subject to the holder's continued service. The modification resulting in a performance-based tranche was determined to be a probable-to-improbable modification and the modification resulting in two revised market-based tranches were determined to be probable-to-probable modifications. The fair value of the performance-based tranche was estimated using the Black-Scholes Model using an expected volatility of 100.0%, a risk-free rate of 1.8% and an expected term of 9.4 years. The fair value of the market-based tranches was determined using a Monte Carlo simulation model using an expected volatility of 100.0% and risk-free rate of 1.8%. The modification resulted in $0.3 million in total incremental expense.

The unrecognized original grant-date fair value, together with any incremental expense, is recognized as compensation using the accelerated attribution method for each tranche over the requisite service period. For the year ended December 31, 2021 and 2022, the Company recognized $0.1 million and $0.4 million of stock-based compensation related to the market-based tranches, respectively, based on an estimated requisite period of up to 6.0 years. As of December 31, 2022, none of the market conditions for the market-based tranches have been met. For the year ended December 31, 2022, no expense was recognized for the performance-based tranche as the performance conditions were not probable of being met.

Awards with Performance Conditions

In 2020, the Company approved 700,965 stock options and 892,136 restricted common stock to certain of the Company's scientific advisors, which vest based on the achievement of performance conditions to be determined and continued service to the Company. During the year ended December 31, 2022, the Company's board of directors established performance conditions, consisting of certain development milestones, for 337,738 stock options and 382,344 restricted common stock such that the criteria for establishing a grant date, and accordingly a measurement date, were met for these performance stock options and performance restricted common. As of December 31, 2022, it was probable that the milestones would be met for certain of the performance stock options and performance restricted stock that were granted in 2022 and for which expense was recognized using the accelerated attribution method. For the year ended December 31, 2022, the Company recognized expense of $0.8 million related to these awards with performance conditions that were probable of being met.

Stock-based Compensation

The following table summarizes total stock-based compensation included in the Company's consolidated statements of operations and comprehensive loss:

	Year Ended December 31,	
	2021	2022
	(in thousands)	
Research and development	$ 2,408	$ 4,252
General and administrative	1,866	4,046
Total stock-based compensation	$ 4,274	$ 8,298

As of December 31, 2022, there was $20.1 million and $2.6 million of unrecognized stock-based compensation related to stock options and restricted stock awards outstanding, respectively, including stock options and stock awards for which achievement of milestones was not probable, which were expected to be recognized over weighted-average remaining service periods of 2.3 years and 1.3 years, respectively.

Services Agreement

In May 2020, the Company entered into a services agreement with a vendor for assistance in evaluating assets and technologies in the field of neurodegeneration. As consideration, the Company issued 127,448 shares of its restricted common stock with a grant-date fair value of $0.4 million, subject to a right of forfeiture that lapsed as to 50% of the shares in May 2021 and lapses as to the remaining 50% of the shares in May 2022. In May 2021, the right of forfeiture lapsed as to 50% of the shares. In April 2022, the services agreement was amended and the right of forfeiture for 12.5% of the shares was modified to allow for vesting with an immaterial incremental amount of stock-based compensation recognized, and the remaining 37.5% of the shares were forfeited. In addition, in return for services provided, the Company agreed to issue the vendor additional shares of its common stock representing a value of $1.0 million upon the achievement of certain milestones tied to the successful in-license or acquisition of assets (the Milestone Shares). The Company concluded the Milestone Shares are stock settled debt that are required to be classified as a liability and recognized at such time the milestones are probable of being met. As of December 31, 2022, the milestones were not probable of being met.

14. Income Taxes

The Company had no income tax expense for the year ended December 31, 2021 and 2022 due to its history of operating losses.

A reconciliation of the Company's federal income tax rate and effective income tax rate is summarized as follows:

	Year Ended December 31,	
	2021	2022
Federal income taxes	21.0%	21.0%
State income taxes, net of federal benefit	3.9	3.7
Permanent differences	(0.2)	(0.5)
Research and development tax credits	0.9	2.1
State Rate Adjustment	—	2.2
Uncertain tax positions	(0.1)	(0.3)
Valuation allowance	(25.5)	(28.2)
Effective income tax rate	— %	— %

Deferred tax assets and liabilities reflect the net tax effects of net operating loss and tax credit carryforwards and temporary differences between the carrying amount of assets and liabilities for financial reporting and the amounts used for tax purposes. Significant components of the Company's deferred tax assets and liabilities are summarized as follows:

	December 31,	
	2021	2022
	(in thousands)	
Deferred tax assets:		
Net operating losses	$ 53,019	$ 63,937
Capitalized license agreements	36,057	39,113
Capitalized research and development expense	7,183	26,132
Research and development credits	6,018	8,425
Compensation related	1,854	3,496
Operating lease liabilities	471	2,080
Other	317	467
Total deferred tax assets	104,919	143,650
Less: valuation allowance	(104,446)	(141,557)
Total deferred tax assets less valuation allowance	473	2,093
Deferred tax liabilities:		
Operating lease right-of-use assets	(429)	(2,028)
Fixed assets	(44)	(65)
Total deferred tax liabilities	(473)	(2,093)
Net deferred tax assets	$ —	$ —

The Company determines its valuation allowance on deferred tax assets by considering both positive and negative evidence in order to ascertain whether it is more likely than not that deferred tax assets will be realized. Realization of deferred tax assets is dependent upon the generation of future taxable income, if any, the timing, and amount of which are uncertain. Due to the Company's recent history of operating losses, the Company believes that recognition of the deferred tax assets arising from the above-mentioned future tax benefits is currently not likely to be realized and, accordingly, has provided a valuation allowance on its deferred tax assets. The valuation allowance increased by $60.4 million and $37.1 million for the year ended December 31, 2021 and 2022, respectively, primarily due to the increase in the Company's net operating losses (NOL) during the periods and deferred tax assets related to capitalized research and development expenses.

NOLs and tax credit carryforwards as of December 31, 2022, were as follows (in thousands):

	Amount	Expiration Years
NOLs, federal (post-December 31, 2017)	$ 214,226	Indefinite(1)
NOLs, federal (pre-January 1, 2018)	40,370	2034 through 2036
NOLs, state	207,398	2034 through 2042
Research and development tax credits, federal	8,303	2034 through 2042
Research and development tax credits, California	3,500	Indefinite
Research and development tax credits, state	501	2034 through 2037

(1) NOL carryforward generated after 2017 which can be carried forward indefinitely and can generally be used to offset up to 80% of future taxable income.

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Utilization of the NOL carryforwards and research and development tax credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986, as amended (Section 382) due to ownership changes that have occurred previously or that could occur in the future. These ownership changes may limit the amount of carryforwards that can be utilized annually to offset future taxable income. In general, an ownership change, as defined by Section 382, results from transactions increasing the ownership of certain stockholders or public groups in the stock of a corporation by more than 50% over a three-year period. The Company has not conducted a study to assess whether a change of control has occurred, including changes of control associated with the acquisitions of assets. Any limitation may result in expiration of a portion of the NOL carryforwards or research and development tax credit carryforwards before utilization; however, such limitation, if any, would not have an impact on the Company's financial statement due to the full valuation.

Uncertain Tax Positions

A reconciliation of the beginning and ending balance of total gross unrecognized tax benefits is as follows:

	December 31,	
	2021	2022
	(in thousands)	
Beginning balance of unrecognized tax benefits	$ 7,440	$ 7,821
Gross increases based on tax positions related to current year	319	355
Gross increases based on tax positions related to prior years	62	—
Gross increases based on tax positions related to acquired entities	—	—
Ending balance of unrecognized tax benefits	$ 7,821	$ 8,176

The unrecognized tax benefits, if recognized, would not have an impact on the Company's effective tax rate assuming the Company continues to maintain a full valuation allowance position. As of December 31, 2022, no significant increases or decreases are expected to the Company's uncertain tax positions within the next twelve months.

The Company files income tax returns in the United States, and the states of California and Massachusetts. Due to net operating loss carryforwards, all years effectively remain open for income tax examination by tax authorities in the United States and states in which the Company files tax returns.

15. Net Loss Per Share

The following table summarizes the computation of basic and diluted net loss per share:

	Year Ended December 31,	
	2021	2022
	(in thousands, except per share amounts)	
Numerator:		
Net loss	$ (237,312)	$ (130,904)
Denominator:		
Weighted-average common shares outstanding, basic, and diluted	21,897	27,207
Net loss per share, basic and diluted	$ (10.84)	$ (4.81)

NEUMORA THERAPEUTICS, INC.

Notes to Consolidated Financial Statements

The following outstanding potentially dilutive common stock equivalents were excluded from the computation of diluted net loss per share for the periods presented because including them would have been antidilutive:

	December 31,	
	2021	2022
	(in thousands)	
Convertible preferred stock	94,710	104,417
Preferred stock warrants	292	—
Common stock options	5,979	8,570
Performance stock options (with performance conditions to be established)	701	363
Early exercised stock options subject to future vesting	528	532
Unvested restricted stock awards	5,000	2,902
Performance restricted stock (with performance conditions to be established)	892	510
Total	108,102	117,294

16. Related Party Transactions

In August 2021, the Company issued 5,097,944 shares of its Series A-2 convertible preferred stock for total cash proceeds of $40.0 million to a significant stockholder that has designated members on the Company's board of directors and who is considered to be a related party.

In September 2022, the Company issued 2,973,800 shares of its Series B convertible preferred stock for total cash proceeds of $35.0 million to two significant stockholders that have designated members on the Company's board of directors and each of whom is considered to be a related party.

In December 2022, 104,563 preferred stock warrants held by a related party were exercised at $10.60 per share (see Note 12).

As of December 31, 2021 and 2022, the Company was obligated to pay Amgen $6.3 million under the Amgen Collaboration Agreement, which was recorded within current liabilities on the consolidated balance sheets. As of December 31, 2021 and 2022, $12.0 million and $11.9 million related to amounts prepayable to Amgen were recorded as prepaid expenses and other current assets and/or other assets, respectively, on the consolidated balance sheets. During the year ended December 31, 2021 and 2022, the Company recorded $0.5 million and $25.1 million of research and development expenses with Amgen, respectively (see Note 10). Subject to certain conditions, Amgen is also obligated to provide the Company additional financing of up to $100.0 million (see Note 11).

17. Defined Contribution Plan

The Company sponsors a 401(k) Plan whereby eligible employees can elect to contribute to the 401(k) Plan, subject to certain limitations, on a pretax basis. Effective from January 1, 2022, the Company commenced matching employee contributions at a rate of 50%, with a maximum matching employer contribution of up to 3% of employee contributions.

18. Subsequent Events

The Company evaluated subsequent events through May 2, 2023, the date these consolidated financial statements were available to be issued (except for the impact of the reverse stock split as discussed in the Reverse Stock Split paragraph of Note 1, as to which the date is September 11, 2023).

NEUMORA THERAPEUTICS, INC.

Condensed Consolidated Balance Sheets
(in thousands, except par values)

	December 31, 2022	June 30, 2023 (unaudited)
Assets		
Current assets:		
Cash and cash equivalents	$ 240,943	$ 204,218
Short-term marketable securities	130,941	119,979
Restricted cash	50	—
Prepaid expenses and other current assets	16,021	12,414
Total current assets	387,955	336,611
Long-term marketable securities	23,511	9,892
Property and equipment, net	2,411	2,071
Operating lease right-of-use assets	8,231	6,612
Restricted cash	1,213	1,213
Other assets	2,913	3,553
Total assets	$ 426,234	$ 359,952
Liabilities, Convertible Preferred Stock, and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 7,147	$ 8,172
Accrued liabilities	11,536	14,435
Early exercise liability, current portion	1,644	158
Operating lease liabilities, current portion	3,370	3,323
Total current liabilities	23,697	26,088
Operating lease liabilities, net of current portion	5,072	3,497
Early exercise liability, net of current portion	628	221
Total liabilities	29,397	29,806
Commitments and contingencies (Note 7)		
Convertible preferred stock, $0.0001 par value; 820,349 shares authorized as of December 31, 2022 and June 30, 2023; 104,417 shares issued and outstanding as of December 31, 2022 and June 30, 2023; aggregate liquidation preference of $856,756 as of June 30, 2023	843,687	843,687
Stockholders' deficit:		
Common stock, $0.0001 par value; 1,210,000 shares authorized as of December 31, 2022 and June 30, 2023; 32,612 and 32,822 shares issued and outstanding as of December 31, 2022 and June 30, 2023, respectively	3	3
Additional paid-in capital	21,430	28,581
Accumulated other comprehensive loss	(774)	(448)
Accumulated deficit	(467,509)	(541,677)
Total stockholders' deficit	(446,850)	(513,541)
Total liabilities, convertible preferred stock, and stockholders' deficit	$ 426,234	$ 359,952

The accompanying notes are an integral part of these condensed consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Condensed Consolidated Statements of Operations and Comprehensive Loss
(unaudited, in thousands, except per share amounts)

	Six Months Ended June 30,	
	2022	**2023**
Operating expenses:		
Research and development	$ 45,677	$ 62,254
Acquired in-process research and development	13,000	—
General and administrative	15,873	18,976
Total operating expenses	74,550	81,230
Loss from operations	(74,550)	(81,230)
Other income (expense):		
Interest income	870	7,127
Other income (expense), net	266	(65)
Total other income	1,136	7,062
Net loss	(73,414)	(74,168)
Other comprehensive income (loss):		
Unrealized gain (loss) on marketable securities	(870)	326
Comprehensive loss	$ (74,284)	$ (73,842)
Net loss per share, basic and diluted	$ (2.78)	$ (2.50)
Weighted-average shares outstanding, basic and diluted	26,432	29,703

The accompanying notes are an integral part of these condensed consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Condensed Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit
(unaudited, in thousands)

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount				
Balance as of December 31, 2021	94,710	$ 729,858	31,985	$ 3	$ 11,381	$ —	$ (336,605)	$ (325,221)
Issuance of common stock upon early exercise of stock options	—	—	442	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	152	—	422	—	—	422
Issuance of common stock as noncash consideration related to an acquisition of assets	—	—	5	—	24	—	—	24
Forfeiture of restricted stock subject to repurchase	—	—	(48)	—	—	—	—	—
Vesting of restricted common stock	—	—	—	—	946	—	—	946
Unrealized loss on marketable debt securities	—	—	—	—	—	(870)	—	(870)
Stock-based compensation	—	—	—	—	3,405	—	—	3,405
Net loss	—	—	—	—	—	—	(73,414)	(73,414)
Balance as of June 30, 2022	94,710	$ 729,858	32,536	$ 3	$ 16,178	$ (870)	$ (410,019)	$ (394,708)

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Deficit
	Shares	Amount	Shares	Amount				
Balance as of December 31, 2022	104,417	$ 843,687	32,612	$ 3	$ 21,430	$ (774)	$ (467,509)	$ (446,850)
Issuance of common stock upon exercise of stock options	—	—	333	—	1,006	—	—	1,006
Repurchase of unvested early exercised stock options	—	—	(123)	—	—	—	—	—
Vesting of restricted common stock	—	—	—	—	1,407	—	—	1,407
Unrealized gain on marketable debt securities	—	—	—	—	—	326	—	326
Stock-based compensation	—	—	—	—	4,738	—	—	4,738
Net loss	—	—	—	—	—	—	(74,168)	(74,168)
Balance as of June 30, 2023	104,417	$ 843,687	32,822	$ 3	$ 28,581	$ (448)	$ (541,677)	$ (513,541)

The accompanying notes are an integral part of these condensed consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Condensed Consolidated Statements of Cash Flows
(unaudited, in thousands)

	Six Months Ended June 30, 2022	Six Months Ended June 30, 2023
Operating activities:		
Net loss	$ (73,414)	$ (74,168)
Adjustments to reconcile net loss to net cash used in operating activities:		
Acquired in-process research and development	13,000	—
Stock-based compensation	3,405	4,738
Noncash operating lease expense	547	1,619
Depreciation and amortization	301	329
Net (accretion) and amortization of investments in marketable securities	(9)	(2,032)
Change in fair value of convertible preferred stock warrants	(245)	—
Other	(25)	45
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(633)	3,616
Other assets	7,672	—
Accounts payable	1,261	1,025
Accrued liabilities	(10,183)	2,386
Operating lease liabilities	(443)	(1,621)
Net cash used in operating activities	(58,766)	(64,063)
Investing activities:		
Purchases of marketable securities	(165,794)	(76,142)
Cash paid for an acquisition of assets	(13,000)	—
Proceeds from sales and maturities of marketable securities	2,476	103,073
Purchases of property and equipment	(358)	(36)
Net cash (used in) provided by investing activities	(176,676)	26,895
Financing activities:		
Proceeds from exercise of stock options	2,472	1,006
Repurchase of unvested early exercised shares	—	(491)
Payments for deferred offering costs	(740)	(122)
Net cash provided by financing activities	1,732	393
Net change in cash and cash equivalents and restricted cash	(233,710)	(36,775)
Cash and cash equivalents and restricted cash at beginning of year	409,372	242,206
Cash and cash equivalents and restricted cash at end of year	$ 175,662	$ 205,431
Components of cash and restricted cash:		
Cash and cash equivalents	$ 174,402	$ 204,218
Restricted cash	1,260	1,213
Total cash and cash equivalents and restricted cash	$ 175,662	$ 205,431
Supplemental disclosure of noncash investing and financing activities:		
Purchases of property and equipment included in accounts payable	$ 88	$ —
Deferred offering costs related to initial public offering included in accrued liabilities	$ 194	$ 1,193

The accompanying notes are an integral part of these condensed consolidated financial statements.

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

1. Organization and Liquidity

Description of Business

Neumora Therapeutics, Inc. (the Company), formerly known as RBNC Therapeutics, Inc., was originally incorporated in the State of Delaware in November 2019, and is headquartered in Watertown, Massachusetts and also has operations in South San Francisco, California.

The Company is a clinical-stage biopharmaceutical company founded to confront the global brain disease crisis by taking a fundamentally different approach to the way treatments for brain diseases are developed. The Company's therapeutic pipeline currently consists of clinical and preclinical neuroscience programs that target novel mechanisms of action for a broad range of underserved neuropsychiatric disorders and neurodegenerative diseases.

As of June 30, 2023, the Company has devoted a significant portion of its financial resources and efforts to building its organization, acquiring technologies and companies, executing clinical and preclinical studies, conducting research and development, identifying and developing potential product candidates, building its precision neuroscience tools, organizing and staffing the Company, business planning, establishing, maintaining and protecting its intellectual property portfolio, raising capital and providing general and administrative support for these operations. The Company has not generated revenue from the sale of products.

Liquidity

The Company has incurred net losses and negative cash flows from operations since inception and as of June 30, 2023, had an accumulated deficit of $541.7 million. The Company incurred a net loss of $73.4 million and $74.2 million during the six months ended June 30, 2022 and 2023, respectively. As of June 30, 2023, the Company had cash, cash equivalents and marketable securities of $334.1 million, which are available to fund future operations.

The Company expects to incur additional losses in the future as it continues its research and development efforts, advances its product candidates through preclinical and clinical development, enhances its precision neuroscience approach and programs, expands its product pipeline, seeks regulatory approval, prepares for commercialization, as well as hires additional personnel, protects its intellectual property and grows its business. The Company will need to raise additional capital to support its continuing operations and pursue its long-term business plan, including to complete the development and commercialization of its product candidates, if approved. Such activities are subject to significant risks and uncertainties, including clinical failure which can impact the Company's ability to secure additional funding. The Company has historically financed its operations primarily with the proceeds from the issuance of its convertible preferred stock, borrowings pursuant to convertible promissory notes and cash acquired in its acquisitions of assets. The Company may raise additional capital through public or private equity offerings or debt financings or other capital sources, which may include strategic collaborations or other arrangements with third parties, or other sources of financing. However, there is no guarantee that any of these financing or opportunities will be executed or realized on favorable terms, if at all, and some could be dilutive to existing stockholders. The Company's ability to raise additional capital through either the issuance of equity or debt is dependent on a number of factors including, but not limited to, Company prospects, which itself is subject to a number of development and business risks and uncertainties, as well as uncertainty about whether the Company would be able to raise such additional capital at a price or on terms that are favorable.

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

The Company believes that its existing cash, cash equivalents and marketable securities as of June 30, 2023 will be sufficient to support operations for at least the next 12 months from the date these condensed consolidated financial statements were available to be issued.

Reverse Stock Split

In September 2023, the Company's board of directors approved an amended and restated certificate of incorporation to effect a reverse split of shares of the Company's common stock and convertible preferred stock on a 7.8463-for-1 basis (the "Reverse Stock Split"), which was effected on September 8, 2023. The par value of the common stock and convertible preferred stock was not adjusted as a result of the Reverse Stock Split. Accordingly, all share data and per share data amounts for all periods presented in the consolidated financial statements and notes thereto have been retrospectively adjusted to reflect the effect of the Reverse Stock Split.

2. Summary of Significant Accounting Policies and Basis of Presentation

Basis of Presentation and Consolidation

The accompanying condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP) and applicable rules and regulations of the Securities and Exchange Commission (SEC) regarding annual financial reporting. The condensed consolidated financial statements include all accounts of the Company and its wholly-owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

Unaudited Interim Condensed Consolidated Financial Statements

The condensed consolidated balance sheet as of June 30, 2023, condensed consolidated statements of operations and comprehensive loss, statements of convertible preferred stock and stockholders' deficit and cash flows for the six months ended June 30, 2022 and 2023 and related notes to condensed consolidated financial statements are unaudited. These unaudited interim condensed consolidated financial statements have been prepared on the same basis as the Company's annual consolidated financial statements and, in the opinion of management, reflect all adjustments (consisting only of normal recurring adjustments) that are necessary for the fair statement of the Company's consolidated financial position, results of operations and cash flows for the periods presented. The condensed consolidated results of operations for the six months ended June 30, 2023 are not necessarily indicative of the results to be expected for the full year or for any other future annual or interim period. The condensed consolidated balance sheet as of December 31, 2022 included herein was derived from the audited consolidated financial statements as of that date. These interim condensed consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements included elsewhere in this prospectus.

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 in the condensed consolidated financial statements and accompanying notes. 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 and judgments on historical experience and on various other assumptions that the Company believes are reasonable under the circumstances. These estimates are based on management's knowledge about current events and expectations about actions the Company may undertake in the future. These judgments, estimates and assumptions are used for, but not limited to, accrued research and development expenses, accounting for acquisitions of assets, fair value of certain assets and liabilities, the fair value of the Company's convertible preferred stock, the fair value of the Company's convertible preferred stock warrant liability, the fair value of the Company's common stock, stock-based compensation, the measurement of right-of-use assets and lease liabilities and related incremental borrowing rate, and uncertain tax positions and the valuation allowance for net deferred tax assets. Actual results may differ from the Company's estimates.

Risks and Uncertainties

The Company is subject to certain risks and uncertainties, including, but not limited to, changes in any of the following areas that the Company believes could have a material adverse effect on future financial position or results of operations: successfully develop, manufacture, and market any approved products; obtain regulatory approval from the U.S. Food and Drug Administration or foreign regulatory agencies prior to commercial sales; new technological innovations; dependence on key personnel, protection of intellectual property; compliance with governmental regulations; uncertainty of market acceptance of any approved products; product liability; and the need to obtain additional financing.

Although the World Health Organization has declared that COVID-19 no longer represents a global health emergency, the actual and perceived impact of COVID-19 and any effect on the Company's business cannot be predicted. As a result, there can be no assurance that the Company will not experience additional negative impacts associated with COVID-19, which could be significant and may further delay the Company's initiation of preclinical studies and clinical trials, interrupt its supply chain, disrupt regulatory activities, or have other adverse effects on its business and operations. The Company's focus remains on promoting measures intended to help minimize its risk of exposure to the virus for its employees, including policies that allow its employees to work remotely.

Marketable Securities

The Company invests its excess cash in marketable debt securities with high credit ratings including but not limited to money market funds, securities issued by the U.S. government and its agencies and commercial paper that are accounted for as available-for-sale and carried at fair value. Marketable securities are classified as short-term or long-term based on the maturity date and their availability to meet current operating requirements. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity, which is included in interest income in the condensed consolidated statements of operations and comprehensive loss. Realized gains and losses on marketable securities, if any, are included in other income (expense), net. The cost of securities sold is determined based on the trade date using the specific identification method.

The Company periodically assesses its available-for-sale debt securities for impairment. For debt securities in an unrealized loss position, this assessment first considers the Company's intent to sell, or whether it is more likely than not that it will be required to sell the security before recovery of its amortized cost basis. If either of these criteria are met, the debt security's amortized cost basis is written down to fair value within other income (expense), net. For debt securities in an unrealized loss position that do not meet the aforementioned criteria, the Company assesses whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, the extent to which fair value is less than amortized cost, any changes to the rating of the security by a rating agency, and any adverse conditions specifically related to the security is considered, among other factors. If this assessment indicates that a credit loss may exist, the present value of cash flows expected to be collected from the security are compared to the amortized cost basis of the security. If the present value of cash flows expected to be collected is less than the amortized cost basis, a credit loss exists and an allowance for credit losses will be recorded in other income (expense), net, limited by the amount that the fair value is less than the amortized cost basis. Any additional impairment not recorded through an allowance for credit losses is recognized in other comprehensive income (loss). Changes in the allowance for credit losses are recorded as provision for (or reversal of) credit loss expense. Losses are charged against the allowance when management believes the un-collectability of an available-for-sale security is confirmed or when either of the criteria regarding intent or requirement to sell is met. These changes are recorded in other income (expense), net.

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. The Company measures fair value by maximizing the use of observable inputs, where available, and minimizing the use of unobservable inputs when measuring fair value. Financial assets and liabilities recorded at fair value in the condensed consolidated balance sheets are categorized in the fair value hierarchy based upon the lowest level of input that is significant to the fair value as follows:

Level 1—Observable inputs such as unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2—Inputs (other than quoted prices included in Level 1) are either directly or indirectly observable inputs for similar assets or liabilities. These include quoted prices for identical or similar assets or liabilities in active markets and quoted prices for identical or similar assets of liabilities in markets that are not active.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value of the instrument.

Acquisitions

The Company evaluates mergers, acquisitions, and other similar transactions to assess whether or not the transaction should be accounted for as a business combination or an acquisition of assets. The Company first identifies who is the acquiring entity by determining if the target is a legal entity or a group of assets or liabilities. If control over a legal entity is being evaluated, the Company also evaluates if the target is a variable interest or voting interest entity. For acquisitions of voting interest entities, the Company applies a screen test to determine if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets. If the screen test is met, the transaction is accounted for as an acquisition of assets. If the screen is not met, further determination is required as to whether or not the Company has acquired inputs and processes that have the ability to create outputs which would meet the definition of a business. Significant judgment is required in the application of the screen test to determine whether an acquisition is a business combination or an acquisition of assets.

For an acquisition of assets, a cost accumulation model is used to determine the cost of the acquisition. Common stock and convertible preferred stock issued as consideration in an acquisition of assets are generally measured based on the acquisition date fair value of the equity interests issued. Direct transaction costs are recognized as part of the cost of an acquisition of assets. The Company also evaluates which elements of a transaction should be accounted for as a part of an acquisition of assets and which should be accounted for separately.

The cost of an acquisition of assets, including transaction costs, are allocated to identifiable assets acquired and liabilities assumed based on a relative fair value basis. Goodwill is not recognized in an acquisition of assets. Any difference between the cost of an acquisition of assets and the fair value of the net assets acquired is allocated to the non-monetary identifiable assets based on their relative fair values. Assets acquired as part of an acquisition of assets that are considered to be in-process research and development intangible assets (IPR&D) are immediately expensed and recorded as a component of acquired in-process research and development expense in the condensed consolidated statements of operations and comprehensive loss unless there is an alternative future use in other research and development projects.

In addition to upfront consideration, the Company's acquisitions of assets may also include contingent consideration payments to be made for future milestone events or royalties on net sales of future products. The Company assesses whether such contingent consideration is subject to liability classification and fair value measurement or meets the definition of a derivative. Contingent consideration payments in an acquisition of assets not required to be classified as a liability at fair value, or are accounted for as derivatives that qualify for a scope exception from derivative accounting, are recognized when the contingency is resolved, and the consideration is paid or becomes payable Contingent consideration payments required to be classified as a liability, or are accounted for as derivatives and do not qualify for a scope exception from derivative accounting, are recorded at fair value on the date of the acquisition and are subsequently remeasured to fair value at each reporting date. Contingent consideration payments made prior to regulatory approval are expensed as incurred. Any future payments that are contingent upon continued services to the Company are treated as compensation and recognized when it is probable such amounts will become payable.

If the target legal entity is determined to be a variable interest entity (VIE) and not a business, all tangible and intangible assets acquired, including any IPR&D assets but excluding goodwill, and liabilities assumed, including contingent consideration, are recorded at their fair values. If the acquisition is determined to be a business combination, all tangible and intangible assets acquired, including any IPR&D assets, and liabilities assumed, including contingent consideration, are recorded at their fair values. Goodwill is recognized for any difference between the consideration transferred and fair value determination. In addition, direct transaction costs in connection with business combinations are expensed as incurred, rather than capitalized.

The tax basis of assets acquired in either a business combination or acquisition of assets are compared to the book basis of such assets resulting in the recognition of deferred tax assets and liabilities.

Deferred Offering Costs

Deferred offering costs, which consist of direct incremental legal, consulting, banking, and accounting fees primarily relating to the Company's contemplated initial public offering (IPO) are capitalized and will be offset against proceeds upon the consummation of the offering within stockholders' deficit. In the event an anticipated offering is terminated, deferred IPO offering costs will be expensed. As of December 31, 2022 and June 30, 2023, deferred offering costs included in other assets in the condensed consolidated balance sheets were $2.9 million and $3.6 million, respectively.

Convertible Preferred Stock

The Company has classified convertible preferred stock, which is contingently redeemable, as temporary equity in the condensed consolidated balance sheets due to terms that allow for the effective redemption of such shares in cash at the option of the holders upon certain liquidation events that are not solely within the Company's control.

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

The carrying values of the convertible preferred stock are adjusted to their liquidation preferences if and when it becomes probable that such a liquidation event will occur. The Company did not accrete the value of the convertible preferred stock to its redemption value since a liquidation event was not considered probable as of December 31, 2022 and June 30, 2023.

The Company also evaluates the features of its convertible preferred stock to determine if the features require bifurcation from the underlying shares by evaluating whether they are clearly and closely related to the underlying shares and whether they meet the definition of a derivative.

Research and Development Expenses and Related Prepaid Assets and Accrued Liabilities

Research and development costs are expensed as incurred. Research and development expenses primarily consist of internal research and development expense, including personnel-related expenses (such as salaries, benefits and noncash stock-based compensation) and other expenses, including laboratory supplies and other non-capital equipment utilized for in-house research, research and consulting expenses, software development costs, license fees and allocated expenses, including facilities costs and depreciation and amortization; external research and development expenses incurred under arrangements with vendors conducting research and development services on its behalf, such as contract research organizations (CROs), preclinical testing organizations and contract manufacturing organizations (CMOs). Costs to develop the Company's platform information technologies are recorded as research and development expense unless the criteria to be capitalized as internal-use software costs is met. Payments made prior to the receipt of goods or services to be used in research and development are capitalized, evaluated for current or long-term classification, and included in prepaid expenses and other current assets or other assets in the condensed consolidated balance sheets based on when the goods are received or the services are expected to be received or consumed, and recognized in research and development expenses when they are realized.

The Company is required to estimate expenses resulting from its obligations under contracts with vendors, service providers and clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations which vary from contract to contract and may result in cash flows that do not match the periods over which materials or services are provided. The Company estimates and records accrued expenses for the related research and development activities based on the level of services performed but not yet invoiced pursuant to agreements established with its service providers, according to the progress of preclinical studies, clinical trials or related activities, and discussions with applicable personnel and service providers as to the progress or state of consummation of goods and services.

During the course of a clinical trial, the rate of expense recognition is adjusted if actual results differ from the Company's estimates. The Company estimates accrued expenses as of each balance sheet date in its condensed consolidated financial statements based on the facts and circumstances known at that time. The clinical trial accrual is dependent in part upon the timely and accurate reporting of CROs, CMOs and other third-party vendors. Although the Company does not expect its estimates to be materially different from amounts actually incurred, its estimate may vary from the actual results. To date, the Company has not experienced material differences between its accrued expenses and actual expenses.

Stock-Based Compensation

The Company maintains equity incentive plans (the Plans) as a long-term incentive for employees, directors, and non-employee service providers. The Company accounts for all stock-based awards based on their fair value on the date of the grant. For stock-based awards with service only vesting conditions, the Company recognizes expense on a straight-line basis over the requisite service period, which is generally the vesting period of the respective award. For awards with performance vesting conditions, the Company evaluates the probability of achieving the performance vesting condition at each reporting date. The Company begins to recognize expense for awards with performance- based vesting conditions using an accelerated attribution method when it is deemed probable that the performance condition will be met. For awards with both market and service vesting conditions, the Company recognizes expense using the accelerated attribution method over the derived requisite service period. Stock-based compensation is classified in the condensed consolidated statements of operations and comprehensive loss based on the function to which the related services are provided. Forfeitures are accounted for as they occur.

The fair value of stock option awards with only service conditions and/or performance-based vesting conditions are estimated on the date of grant using the Black-Scholes option pricing model, which requires inputs based on certain subjective assumptions, including the expected stock price volatility, the expected term of the option, the risk-free interest rate for a period that approximates the expected term of the option, and the expected dividend yield. The fair value of stock options awards with market-based vesting conditions is estimated on the grant date using the Monte Carlo simulation model, which utilizes subjective assumptions, including volatility and the derived service periods, that determine the probability of satisfying the market condition stipulated in the award to estimate the fair value of the award. The fair value of restricted stock awards is based on the estimated fair value of the Company's common stock on the grant date.

The fair value of the Company's common stock is determined by the Company's board of directors with the assistance of management. The fair value of common stock is determined using valuation methodologies which utilize certain assumptions, including probability weighting of events, volatility, time to an exit event, a risk-free interest rate and an assumption for a discount for lack of marketability. In determining the fair value of 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' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*.

Comprehensive Loss

Comprehensive loss includes net loss and certain changes in stockholders' deficit that are excluded from net loss, such as unrealized losses on the Company's available-for-sale marketable securities.

Emerging Growth 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 condensed consolidated financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

Recent Accounting Pronouncements Not Yet Adopted

The Company continues to monitor new accounting pronouncements issued by the FASB and does not believe any accounting pronouncements issued through the date of this report, which have not yet been adopted, will have a material impact on the Company's condensed consolidated financial statements.

3. Cash Equivalents and Marketable Securities

The following table summarizes the amortized cost and fair value of the Company's cash equivalents and marketable securities by major investment category for the period indicated:

	December 31, 2022			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Estimated Fair Value
	(in thousands)			
Cash equivalents:				
Money market funds	$ 183,353	$ —	$ —	$ 183,353
Total cash equivalents	$ 183,353	$ —	$ —	$ 183,353
Marketable securities:				
U.S. government and agency debt securities	$ 57,534	$ —	$ (272)	$ 57,262
Corporate debt securities	42,267	1	(266)	42,002
Commercial paper	55,425	—	(237)	55,188
Total marketable securities	$ 155,226	$ 1	$ (775)	$ 154,452
Total cash equivalents and marketable securities	$ 338,579	$ 1	$ (775)	$ 337,805

The Company's marketable securities by contractual maturity were (in thousands):

	December 31, 2022
Within one year	$ 130,941
After one year through two years	23,511
Total marketable securities	$ 154,452

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

The following table summarizes the amortized cost and fair value of the Company's cash equivalents and marketable securities by major investment category for the period indicated:

	June 30, 2023			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Estimated Fair Value
	(in thousands)			
Cash equivalents:				
Money market funds	$ 179,434	$ —	$ —	$ 179,434
Commercial paper	11,183	2	—	11,185
Total cash equivalents	$ 190,617	$ 2	$ —	$ 190,619
Marketable securities:				
U.S. government and agency debt securities	$ 35,316	$ 1	$ (244)	$ 35,073
Corporate debt securities	10,757	3	(34)	10,726
Commercial paper	84,248	2	(178)	84,072
Total marketable securities	$ 130,321	$ 6	$ (456)	$ 129,871
Total cash equivalents and marketable securities	$ 320,938	$ 8	$ (456)	$ 320,490

The Company's marketable securities by contractual maturity (in thousands):

	June 30, 2023
Within one year	$ 119,979
After one year through two years	9,892
Total marketable securities	$ 129,871

As of June 30, 2023, the Company has not realized any material gains or losses on its marketable securities, including any impairment charges on its securities related to expected credit losses. As of June 30, 2023, the aggregate difference between the amortized cost and fair value of each security in an unrealized loss position was de minimis. Since any provision for expected credit losses for a security held is limited to the amount the fair value is less than its amortized cost, no allowance for expected credit loss was deemed necessary at June 30, 2023 (see Note 4).

4. Fair Value Measurements

The carrying amounts of the Company's financial instruments, including prepaid expenses and other current assets, accounts payable, accrued liabilities and the current portion of operating lease liabilities approximate fair value due to the short-term nature of those instruments.

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

The following tables summarize the Company's assets and liabilities measured at fair value on a recurring basis by level within the valuation hierarchy:

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Cash equivalents:				
Money market funds	$ 183,353	$ —	$ —	$ 183,353
Marketable securities:				
U.S. government and agency debt securities	44,777	12,485	—	57,262
Corporate debt securities	—	42,002	—	42,002
Commercial paper	—	55,188	—	55,188
Total assets measured at fair value	$ 228,130	$ 109,675	$ —	$ 337,805

	June 30, 2023			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Cash equivalents:				
Money market funds	$ 179,434	$ —	$ —	$ 179,434
Commercial paper	—	11,185	—	11,185
Marketable securities:				
U.S. government and agency debt securities	23,210	11,863	—	35,073
Corporate debt securities	—	10,726	—	10,726
Commercial paper	—	84,072	—	84,072
Total assets measured at fair value	$ 202,644	$ 117,846	$ —	$ 320,490

Money market funds are highly liquid and actively traded marketable securities that generally transact at a stable $1.00 net asset value representing its estimated fair value. The Company estimates the fair value of its commercial paper, corporate debt securities and U.S. government and agency debt securities by taking into consideration valuations obtained from third-party pricing services. The pricing services utilize industry standard valuation models, including both income and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. These inputs include reported trades of and broker/dealer quotes on the same or similar securities, issuer credit spreads, benchmark securities, prepayment/default projections based on historical data, and other observable inputs.

Convertible Preferred Stock Warrant Liability

The Company issued convertible preferred stock warrants to purchase shares of its Series A-1 convertible preferred stock in September 2020, which did not meet the criteria for equity classification. The estimated fair value of the convertible preferred stock warrant liability, prior to exercise or expiration, was determined based on significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy. All of the convertible preferred stock warrants were exercised or had expired on or before December 31, 2022. There were no outstanding convertible preferred stock warrants as of December 31, 2022 or June 30, 2023.

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

5. Balance Sheet Components

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following:

	December 31, 2022	June 30, 2023
	(in thousands)	
Prepaid research and development costs ($11.9 million and $8.1 million from related party in 2022 and 2023, respectively)	$ 13,484	$ 10,670
Prepaid other	1,618	1,150
Other receivables	919	594
Total prepaid expenses and other current assets	$ 16,021	$ 12,414

Accrued Liabilities

Accrued liabilities consisted of the following:

	December 31, 2022	June 30, 2023
	(in thousands)	
Compensation and benefits	$ 8,400	$ 6,792
Accrued clinical trial and preclinical costs	652	4,064
Professional services	1,187	2,268
Accrued research and development services	889	876
Other	408	435
Total accrued liabilities	$ 11,536	$ 14,435

6. Acquisitions of Assets

BlackThorn Therapeutics, Inc.

In June 2020, the Company entered into an agreement and plan of merger (BlackThorn Merger Agreement) to acquire all of the equity interests of BlackThorn Therapeutics, Inc. (BlackThorn), which became effective in September 2020. The Company acquired BlackThorn for its in-process research and development programs, including an antagonist of the Kappa Opioid Receptor (navacaprant (NMRA-140)) for the treatment of major depressive disorders and an antagonist of the Vasopressin 1a Receptor (NMRA-511) for the treatment of anxiety disorders. The Company also gained access to a cloud-based computational psychiatry and data platform that was being developed to support drug target identification, patient stratification and objective clinical trial endpoints. Both navacaprant and NMRA-511 were exclusively licensed to BlackThorn by The Scripps Research Institute (TSRI). The acquisition was accounted for as an acquisition of assets.

The BlackThorn Merger Agreement requires the Company to pay the former stockholders of BlackThorn contingent consideration (i) with respect to navacaprant, in the form of development and regulatory approval milestones of up to an aggregate amount of $365.0 million, which includes a milestone payment of $90.0 million that will become due upon dosing the first patient in the Phase 3 clinical trial for navacaprant, and sales-based milestones of up to an aggregate amount of $450.0 million and (ii) with respect to NMRA-511, in the form of

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Notes to Unaudited Condensed Consolidated Financial Statements

development and regulatory approval milestones of up to an aggregate amount of $100.0 million, and sales-based milestones of up to an aggregate amount of $100.0 million (BlackThorn Milestones). At the Company's sole discretion, the BlackThorn Milestone payments may be settled in cash or shares of the Company, or a combination of both, subject to the provisions of the BlackThorn Merger Agreement, other than one development milestone in the amount of $10.0 million, which must be settled in cash. None of the BlackThorn Milestones were subject to liability classification and/or derivative accounting and any such contingent consideration will be recognized when the contingency is resolved, and the consideration becomes payable. As of June 30, 2023, none of the milestones had been achieved and no such amounts were deemed due or payable.

BlackThorn Carveout Plan

The BlackThorn Merger Agreement required that the Company establish a carveout plan (the BlackThorn Carveout Plan), pursuant to which each BlackThorn stock option holder as of immediately prior to the closing date was allocated a certain number of units (the BlackThorn Carveout Units) based on the number of shares underlying the outstanding options held by each participant at that time. Each BlackThorn Carveout Unit represents a right to receive a portion of the BlackThorn Milestone payment (the BlackThorn Carveout Payments) upon the later of (i) the achievement of a BlackThorn Milestone and (ii) the vesting of the BlackThorn Carveout Unit.

The BlackThorn Carveout Units vest based on time-based schedules that mirror the vesting schedules for the original option awards held by each participant. As of the closing date in September 2020, a portion of the BlackThorn Carveout Units corresponding to the pre-acquisition service periods were fully vested (Vested Carveout Units). The remainder of the BlackThorn Carveout Units vest subject to the continued service of the participants.

The Vested Carveout Units represent contingent consideration for the acquisition as they are attributable to pre-acquisition services rendered by the participants and continuing service is not required for the participants to receive future payments upon a BlackThorn Milestone being achieved. The Company will recognize the contingent consideration obligation for the Vested Carveout Units when the contingency is resolved, and the consideration becomes payable. The BlackThorn Carveout Units that were unvested as of the closing date are dependent on the continued service of participants and were deemed to be a compensation arrangement. The Company recognizes compensation starting from the time payment becomes probable over each participant's service period. As of June 30, 2023, none of the BlackThorn Milestones had been achieved, and no contingent consideration obligation related to the BlackThorn Carveout Plan was deemed due or payable and the Company recorded $1.8 million of compensation related to the BlackThorn Carveout Units with a corresponding offset to accrued liabilities.

Syllable Life Sciences, Inc.

In September 2020, the Company entered into an agreement and plan of merger (Syllable Merger Agreement) to acquire all of the outstanding equity of Syllable Life Sciences, Inc. (Syllable). The Company acquired Syllable to gain access the rights granted to Syllable under an exclusive license agreement (as amended, the Harvard License Agreement) with President and Fellows of Harvard College (Harvard) and an associated behavior analysis machine learning and computer vision software tool which Syllable was developing to identify and quantify behavior as an indicator of neurological conditions. The transaction was accounted for as an acquisition of assets.

The former stockholders of Syllable are entitled to contingent consideration in the form of development milestones of up to an aggregate of $5.0 million (Syllable Milestones). At the Company's sole discretion, the

Syllable Milestone payments may be settled, in cash or shares equity of the Company, or a combination of both, subject to the provisions of the Syllable Merger Agreement and were not subject to liability classification and/or derivative accounting. Any such contingent consideration will be recognized when the contingency is resolved, and the consideration becomes payable. As of June 30, 2023, none of the milestones had been achieved and no such amounts were deemed due or payable.

Alairion, Inc.

In November 2020, the Company entered into an agreement and plan of merger (Alairion Merger Agreement) to acquire all of the outstanding equity of Alairion, Inc. (Alairion). The acquisition of Alairion allowed the Company to expand its program pipeline by gaining rights to two preclinical stage research and development programs focused on the treatment of sleep disorders, an H1 receptor antagonist program (the H1 Program) and a GABA receptor positive allosteric modulator program (the GABA Program). The acquisition also provided the Company with access to a license for software that records sleep and related drug discovery and optimization technology platform. The transaction was accounted for as an acquisition of assets.

The holders of Alairion common stock outstanding as of immediately prior to the closing date received non-transferable rights to future milestone payments of up to $33.5 million upon the achievement of specified development events and $135.0 million upon the achievement of specified commercialization events related to the H1 Program and the GABA Program (the Alairion Milestones).

The Alairion Milestone payments may be settled, at the Company's sole discretion, in cash or shares of the Company, or a combination of both, subject to the provisions of the Alairion Merger Agreement. None of the Alairion Milestones were subject to liability classification and/or derivative accounting and any such contingent consideration will be recognized when the contingency is resolved, and the consideration becomes payable. As of June 2023, none of the Alairion Milestones have been recognized. In March 2022, the Company paused the active program acquired from Alairion while it assesses pre-IND feedback received from the FDA and considers alternative options for that program.

Alairion Carveout Plan

The Alairion Merger Agreement also required the Company to establish a carveout plan (the Alairion Carveout Plan) pursuant to which a portion of the payments under the Alairion Milestones, up to $3.0 million (the Alairion Carveout Payments), are reserved for participants under the Alairion Carveout Plan. Participants in the Alairion Carveout Plan are comprised of former Alairion employees, several of whom were retained as employees or consultants of the Company post-acquisition. Under the Alairion Carveout Plan, the Company granted the participants retention units, each representing a right to receive future payments upon the completion of Phase 2 clinical studies with respect to either the H1 Program or the GABA Program and achievement of the related Alairion Milestone, subject to the continued service of the participant until such time and were deemed to be a compensation arrangement. The retention units are forfeited if a participant's service is terminated prior to the receipt of results from the Phase 2 clinical studies associated with the H1 Program and GABA Program. The Company will recognize such compensation starting from the time payment becomes probable over each participant's service period. As of June 30, 2023, it was not probable that Phase 2 clinical studies would be achieved, and no compensation related to the Alairion Carveout Plan had been recorded.

Amgen Inc. Licenses

In September 2021, the Company entered into two license agreements with Amgen Inc. (Amgen) pursuant to which it obtained exclusive, worldwide licenses to develop, manufacture, use, commercialize and distribute products containing compounds that are directed to, in one case, CK1d, and in the other case, glucocerebrocidase (GCase), both for the treatment of neurodegenerative diseases (the Amgen License Agreements) and related know-how and clinical material (collectively, the Amgen IPR&D Assets). Concurrently, the Company also executed a research collaboration agreement as well as a stock purchase agreement with Amgen. Both agreements were deemed to be separate transactions and not accounted for as part of the acquisition of assets. The Company accounted for these transactions as acquisitions of assets.

The total upfront consideration transferred to Amgen of 20.0 million shares of the Company's Series A-2 convertible preferred stock, with an acquisition date fair value of $157.0 million was allocated to the Amgen IPR&D Assets.

Under these two license agreements, Amgen is eligible to receive contingent consideration up to an aggregate of $360.0 million in commercial milestone payments per product payable in cash with a compound directed to CK1d and up to an aggregate of $360.0 million in commercial milestone payments per product payable in cash with a compound directed to GCase, in each case, upon the achievement of certain sales thresholds and single digit royalties on potential future net sales, related to CK1d or GCase. Such contingent consideration was not subject to liability classification and/or derivative accounting and will be recognized when the contingency is resolved, and the consideration becomes payable. As of June 30, 2023, none of the milestones had been achieved and no such amounts were deemed due or payable.

In addition, until a specified period of time following the achievement of the first successful Phase 2 clinical trial for any licensed product, if the Company chooses to sell, transfer, sublicense or divest rights to a licensed product in certain major markets, Amgen has a period of time to enter into an agreement with the Company for such rights. The Company determined that these rights of first negotiation were not freestanding instruments from the Amgen License Agreements and did not meet the definition of a derivative.

Vanderbilt License

In February 2022, the Company and Vanderbilt University (Vanderbilt) entered into a license agreement (Vanderbilt License Agreement). Pursuant to the Vanderbilt License Agreement, the Company obtained an exclusive, worldwide royalty-bearing, sublicensable (subject to certain restrictions) license under certain patent rights and a non-exclusive, worldwide, royalty-bearing, sublicensable (subject to certain restrictions) license under certain know-how covering small molecule positive allosteric modulators (PAMs) predominantly of the muscarinic acetylcholine receptor subtype 4 (M4) to develop, manufacture, and commercialize products, processes and services covered by such patent rights or that incorporate or use such know-how, for any and uses (the Vanderbilt IPR&D Assets). Concurrently, the Company also executed a sponsored research agreement (see Note 8) with Vanderbilt. The sponsored research agreement was deemed to be separate transactions and not accounted for as part of the acquisition of assets. The acquisition of Vanderbilt IPR&D Assets became effective in February 2022.

The licensed patent rights are subject to Vanderbilt's right to use the patent rights for research, internal non-commercial use, and educational purposes. The Company intends to develop the PAMs for the treatment of schizophrenia and other neuropsychiatric disorders. The Company has agreed to use commercially reasonable efforts to develop and commercialize licensed products, and to achieve certain development milestones.

The Company paid Vanderbilt a non-refundable, non-creditable upfront cash payment of $13.0 million for the Vanderbilt IPR&D Assets, which was immediately recognized as acquired in-process research and development expense in the condensed consolidated statement of operations and comprehensive loss as it was determined to have no alternative future use as of the acquisition date. Under the Vanderbilt License Agreement, Vanderbilt is eligible to receive contingent consideration payable in cash up to an aggregate of $42.0 million upon the achievement of specified development milestones and up to an aggregate of $380.0 million upon the achievement of commercial milestone events as well as and tiered royalties at mid-single digit percentages on potential future net sales, subject to specified reductions for the lack of patent coverage, generic entry and payment obligations for third-party licenses. In addition, the Company is obligated to pay Vanderbilt low-double-digit percentage of sublicense income it receives for sublicenses entered into before the achievement of a specified event. Such contingent consideration was not subject to liability classification and/or derivative accounting and will be recognized when the contingency is resolved, and the consideration becomes payable. As of June 30, 2023, none of the milestones had been achieved and no such amounts were deemed due or payable.

In addition, the Company also has an exclusive option, exercisable for a specified period of time, to negotiate an exclusive license to certain patent rights conceived or developed by Vanderbilt in the course of carrying out the sponsored research pursuant to a sponsored research agreement the between the Company and Vanderbilt, which was entered into at the same time as the Vanderbilt License Agreement. The Company determined that the right to negotiate was not a freestanding instrument from the Vanderbilt License Agreement and did not meet the definition of a derivative.

7. Commitments and Contingencies

Indemnification

In the ordinary course of business, the Company enters into agreements that may include indemnification provisions. Pursuant to such agreements, the Company may indemnify, hold harmless and defend an indemnified party for losses suffered or incurred by the indemnified party. Some of the provisions will limit losses to those arising from third party actions. In some cases, the indemnification will continue after the termination of the agreement. The maximum potential amount of future payments the Company could be required to make under these provisions is not determinable. The Company has not incurred material costs to defend lawsuits or settle claims related to these indemnification provisions. The Company has also entered into indemnification agreements with its directors and officers that may require the Company to indemnify its directors and officers against liabilities that may arise by reason of their status or service as directors or officers to the fullest extent permitted by Delaware corporate law. The Company currently has directors' and officers' insurance.

Other Commitments

The Company has various manufacturing, clinical, research and other contracts with vendors in the conduct of the normal course of its business. Such contracts are generally terminable with advanced written notice and payment for any products or services received by the Company through the effective time of termination and any non-cancelable and non-refundable obligations incurred by the vendor at the effective time of the termination. In the case of terminating a clinical trial agreement at a particular site, the Company would also be obligated to provide continued support for appropriate medical procedures at that site until completion or termination.

8. Strategic License and Research and Collaboration Agreements

2015 TSRI License Agreement

In connection with the acquisition of BlackThorn (see Note 6), the Company gained certain exclusive rights to intellectual property related to Kappa Opioid Receptor and V1aR Receptor Antagonist programs as well as an oxytocin receptors positive allosteric modulator program (collectively, the TSRI Programs) under a license agreement between BlackThorn and TSRI originally entered into in November 2015 (as amended, the 2015 TSRI License Agreement). The technology licensed under the 2015 TSRI License Agreement is used in the Company's navacaprant and NMRA-511 research and development programs.

Pursuant to the 2015 TSRI License Agreement, the Company is obligated, among other things, to pay TSRI (i) a nominal annual license fee due and payable on the first day of each calendar year and after the fourth anniversary creditable against any royalties due for such calendar year, (ii) development and regulatory milestone payments of up to $1.5 million in aggregate for the first product from each TSRI Program, which are contingent upon achieving specific development and regulatory milestone events, (iii) commercial milestone payments of up to $3.5 million in aggregate for each occurrence, which are contingent upon achieving specified commercialization milestone events, (iv) tiered low-single digit royalties on future net sales of each royalty-bearing product and (v) a percentage ranging from the mid-single digits to sub teen double digits of any sublicensing revenues the Company receives. As of June 30, 2023, none of the milestones had been achieved and no royalties were due under the 2015 TSRI License Agreement.

Harvard License Agreement

In connection with the acquisition of Syllable (see Note 6), the Company gained exclusive rights covering certain behavior imagining and behavioral tracking software under a license agreement between Syllable and Harvard originally entered into in June 2020. The Company uses the technology licensed under the Harvard License Agreement to advance its precision neuroscience approach.

Under the Harvard License Agreement, the Company was obligated, among other things, to pay Harvard (i) nominal annual license maintenance fees, (ii) mid-single digit royalties on future net sales of each royalty-bearing product that utilized the licensed technology, and (iii) a portion of any sub licensing revenues the Company received ranging from the high teens to low-double digits. In addition, the Harvard License Agreement, as amended in March 2021, provided for certain development milestones that the Company was required to meet between December 2021 and January 2024. Failure to meet such milestones constituted a material breach of contract and would provide Harvard with the right to terminate the agreement. Effective as of March 31, 2023, Harvard and the Company agreed to terminate the agreement. Prior to termination of the agreement, the Company had not met any of the development or sales-based milestones.

Research and Collaboration Agreement with Amgen

In September 2021, and concurrently with the Amgen License Agreements (see Note 6), the Company entered into a research collaboration agreement with Amgen (Amgen Collaboration Agreement) to collectively discover drug targets, biomarkers, and other insights associated with central nervous system (CNS) diseases utilizing Amgen's deCODE genetics and human data research capabilities. The Company received exclusive rights under intellectual property generated in the collaboration to exploit therapeutic compounds and diagnostics for use with therapeutics in the CNS field and Amgen received exclusive rights to exploit therapeutic compounds and diagnostics for use with therapeutics outside of the CNS field. The agreement is governed by the Joint Research Committee (JRC), which is made up of equal representatives from each of the Company and Amgen to manage the progress and direction of research and development activities. All decisions made by the JRC shall be by consensus with each party having one vote, and if the JRC cannot reach a consensus, the dispute shall be referred to each company's executive officers. If the executive officers fail to reach a consensus, the Company will have final decision-making authority provided that the matter does not relate to the approval of, or any material change to, a project, decisions to acquire rights from a third party, decisions or activities that are in conflict with Amgen's database usage or data access rights, or the approval of external costs and expenses relating to certain new data generation activities or certain new dataset acquisitions, as such matters require mutual agreement.

In return for Amgen performing research and development activities under the agreement, the Company is committed to making non-refundable, non-creditable quarterly payments over the first two years totaling $50.0 million and for the third year between $12.5 million and $25.0 million depending on whether certain progress milestones are achieved. Additionally, the Company will reimburse Amgen for certain direct, out-of-pocket external costs and expenses that are incurred in the performance of the activities under the Amgen Collaboration Agreement.

The term of the agreement is up to five years, although it will terminate after three years if the Company and Amgen do not mutually agree upon a compensation structure for years four and five. If the parties do not reach an agreement at least 30 days prior to the end of year three, the Amgen Collaboration Agreement will automatically terminate upon its third anniversary. Further, either party can terminate the Amgen Collaboration Agreement upon material uncured breach or bankruptcy by the other party, in which case all amounts that have become due through the date of termination are non-refundable.

Amgen also has an exclusive option to negotiate, and the right of first negotiation, to obtain exclusive, worldwide licenses to research, develop, commercialize, and otherwise exploit up to two therapeutic compounds or any pharmaceutical product containing such therapeutic compound arising from the collaboration. That right exists with respect to each compound for a certain period of time following positive Phase 2 results for that compound. The Company determined that these rights were not freestanding instruments from the Amgen Collaboration Agreement and did not meet the definition of a derivative. Upon execution of the Amgen Collaboration Agreement in September 2021, the Company was obligated to start paying Amgen non-refundable quarterly payments of $6.3 million. As of June 30, 2023, the eighth non-refundable quarterly payment of $6.3 million became due and has been recorded within accounts payable. As of December 31, 2022 and June 30, 2023, the related prepaid research and development costs included in the condensed consolidated balance sheet were $11.9 million and $8.1 million, respectively, within prepaid expenses and other current assets. The Company recorded $14.3 million and $16.3 million of related research and development expenses during the six months ended June 30, 2022 and 2023, respectively.

Sponsored Research Agreement with Vanderbilt

In February 2022, and concurrently with the Vanderbilt License Agreement (see Note 6), the Company entered into a sponsored research agreement with Vanderbilt (Vanderbilt Research Agreement), pursuant to which Vanderbilt agreed to provide the Company research services to develop a M4 PAM back-up program.

The agreement is governed by the Joint Steering Committee (JSC) which is made up of three representatives from each of the Company and Vanderbilt to manage the progress and direction of research and development activities. All decisions made by the JSC shall be by consensus with each party having one vote, and if the JSC cannot reach a consensus, then (i) each party shall make the final decision on non-strategic, day to day, operational matters related to the implementation of research program activities conducted, managed, controlled or directed by such party, and (ii) the Company will have final decision-making authority with respect to material operation and strategic decisions.

In return for Vanderbilt performing research and development activities under the agreement, the Company agreed to make quarterly payments for research up to a total of $1.7 million on an annual basis. The term of the agreement was extended from February 2023 to September 2023. Vanderbilt may terminate the agreement upon 60 days' written notice. The Company may terminate the agreement upon 30 days' written notice, subject to the Company paying reasonable costs incurred by Vanderbilt to wind-down the program and all costs incurred and non-cancellable commitments made prior to the termination date.

In addition, the Company also has an exclusive option to negotiate an exclusive license to certain patent rights conceived or developed by Vanderbilt in the course of carrying out the sponsored research (see Note 6).

9. Convertible Preferred Stock and Stockholders' Deficit

Convertible Preferred Stock

In September 2022, the Company executed a preferred stock purchase agreement (the Series B SPA) and issued 7,425,572 shares of its Series B convertible preferred stock, including 1,274,486 shares to a new investor and 6,151,086 shares to existing investors, two of whom were related parties, at $11.77 per share for aggregate proceeds of $87.4 million in the initial closing of its Series B convertible preferred stock financing (the Series B Initial Closing). The Series B SPA provides that within 90 days of the Series B Initial Closing, the Company may issue and sell on the same terms and conditions, additional shares of its Series B convertible preferred stock to one or more purchasers (Series B Subsequent Closing). The Series B Subsequent Closing is at the option of the Company and therefore was not determined to be a commitment by the Company that is subject to liability classification and/or derivative accounting.

In October 2022, the Series B Subsequent Closing occurred, and the Company issued an additional 2,124,143 shares of its Series B convertible preferred stock to a new investor at $11.77 per share for aggregate proceeds of $25.0 million.

As of December 31, 2022 and June 30, 2023, the Company's convertible preferred stock consisted of the following:

	Shares Authorized	Shares Issued and Outstanding	Carrying Value	Liquidation Preference
	(in thousands)			
Series A-1	47,471	5,915	$ 38,208	$ 46,413
Series A-2	697,948	88,952	693,263	697,948
Series B	74,930	9,550	112,216	112,395
Total convertible preferred stock	820,349	104,417	$ 843,687	$ 856,756

Amgen Future Financing

Subject to certain conditions, Amgen is obligated to provide the Company with additional financing of up to $100.0 million in equity securities. This obligation terminates upon the completion of a public offering of the Company's common stock. This future financing is a freestanding financial instrument and is not subject to liability classification and/or derivative accounting. The value of this future financing was determined to be de minimis at issuance and as of December 31, 2022 and June 30, 2023, as it would be settled based on the same terms and conditions other third parties will receive.

Common Stock

In October 2022, the Company's board of directors approved a certificate of amendment to the Company's amended and restated certificate of incorporation which, among other things, (i) increased the authorized number of shares of the Company’s common stock to 1,210,000,000 shares and (ii) increased the authorized number of shares of the Company’s convertible preferred stock to 820,348,942 shares.

The holders of the Company’s common stock are entitled to one vote per share on all matters to be voted on by the stockholders of the Company and are entitled to dividends, if and when declared by the Company’s board of directors, subject to the prior rights of the preferred stockholders. Common stock outstanding in the condensed consolidated balance sheet and condensed consolidated statement of convertible preferred stock and stockholders’ deficit as of June 30, 2023 includes 1,493,124 shares of restricted stock that vest based on service conditions and are subject to the Company’s right of repurchase upon termination of services and 892,136 shares of restricted stock that vest based on performance conditions (see Note 11). Common stock reserved for future issuance consisted of the following:

	June 30, 2023
Shares reserved for conversion of outstanding convertible preferred stock	104,417
Shares reserved for options to purchase common stock under the Plans	12,195
Shares reserved for issuance under the Plans	3,227
Total	119,839

In addition, the Company may be required to issue additional shares of its capital stock if certain milestone conditions are met pursuant to the contingent consideration associated with the Company’s acquisitions of assets (see Note 6). As of June 30, 2023, none of the milestone conditions have been met and no shares have been reserved for potential future issuances.

10. Preferred Stock Warrants

In connection with the BlackThorn acquisition in September 2020, the Company issued preferred stock warrants to purchase up to 292,193 shares of Series A-1 convertible preferred stock with an exercise price of $10.60 per share. In December 2022, 210,481 preferred stock warrants were exercised and the remaining 81,712 preferred stock warrants expired as of December 31, 2022. The Company issued 157,371 shares of Series A-1 convertible preferred stock, including 104,563 to a related party, upon the exercise and net exercise of preferred stock warrants.

11. Stock-Based Compensation

2020 Equity Incentive Plan

In January 2020, the Company adopted the 2020 Equity Incentive Plan (the 2020 Plan) that provides for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit, and other stock-based awards to employees, directors, and non-employee service providers of the Company.

2015 Equity Incentive Plan

Upon the closing of the BlackThorn acquisition in September 2020, the Company assumed BlackThorn’s 2015 Equity Incentive Plan (the 2015 Plan, and collectively with the 2020 Plan, the Plans), pursuant to which outstanding stock options previously granted under the 2015 Plan converted into stock options to purchase common stock of the Company, which remain subject to the terms and conditions of the 2015 Plan. The 2015 Plan was suspended in connection with the closing of the acquisition of BlackThorn in September 2020.

Stock Option Activity

The following table summarizes stock option activity under the Plans:

	Outstanding Stock Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
	(in thousands, except per share amounts and years)			
Outstanding as of December 31, 2022	8,570	$ 3.79	8.2	$ 24,085
Granted	4,206	6.37		
Exercised	(333)	3.03		
Canceled and forfeited	(787)	3.69		
Expired	(207)	3.08		
Outstanding as of June 30, 2023	11,449	$ 4.78	8.6	$ 19,114
Vested as of June 30, 2023	3,041	$ 3.79	7.5	$ 8,517
Exercisable as of June 30, 2023	3,296	$ 3.69	7.6	$ 9,497

The stock option activity table above excludes options to purchase 299,503 shares of the Company's common stock issued to the Company's scientific advisors which vest based on the achievement of certain performance conditions to be separately defined and approved by the Company's board of directors. As the performance conditions had not been determined as of June 30, 2023, the criteria for establishing a grant date, and accordingly a measurement date, were not met as of that date.

The stock option activity table above also excludes options granted to purchase 446,068 shares of common stock that were originally granted with market conditions to one of the Company's executives.

Fair Value of Stock Options

The fair value of stock options granted for employee and non-employee awards was estimated at the grant date using the Black-Scholes option pricing model based on the following assumptions:

	Six Months Ended June 30,	
	2022	2023
Expected volatility	87.2% – 91.1%	89.5% – 92.7%
Expected term (years)	5.4 – 6.5	4.5 – 6.1
Risk-free interest rate	1.7% – 3.2%	3.4% – 4.0%
Expected dividend yield	— %	— %

Early Exercise of Employee Stock Options

The Company's 2020 Plan allows certain employees to exercise their stock options prior to vesting into shares of restricted common stock. The proceeds from early exercised stock options are recorded as liabilities in the condensed consolidated balance sheets at the time of exercise and reclassified to common stock and additional paid-in capital as the underlying stock options vest and the Company's repurchase right lapses. As of June 30, 2023, the Company had issued 1,004,607 shares of restricted common stock upon the early exercise of unvested stock options, of which 799,629 shares had vested and 122,987 unvested shares had been repurchased, such that 81,991 shares or restricted stock remained outstanding and unvested.

Restricted Stock Awards

The Company's 2020 Plan allows for the grant of restricted common stock to certain employees, executives, non-employee scientific advisors, and third-party service providers. The restrictions lapse over time primarily according to service-based vesting conditions of each award. In the event of a voluntary or involuntary termination of the holder's continuous provision of services to the Company, any unvested portion of the restricted stock award is automatically forfeited.

The following table summarizes the Company's restricted stock activity:

	Shares	Weighted-Average Grant Date Fair Value Per Share
	(in thousands, except per share amounts)	
Outstanding and unvested as of December 31, 2022	2,902	$ 0.90
Vested	(1,175)	0.20
Outstanding and unvested as of June 30, 2023	1,727	$ 1.38

The restricted stock activity table above excludes 509,792 shares of restricted common stock issued to certain of the Company's scientific advisors which vest based on the achievement of certain performance conditions to be separately defined and approved by the Company's board of directors. As the performance conditions had not been determined as of June 30, 2023, the criteria for establishing a grant date, and accordingly a measurement date, were not met as of that date.

Award with Market and Performance Conditions

In June 2021, the Company granted stock options to purchase 446,068 shares of its common stock to one of its executive officers with an exercise price of $2.52 per share that contained both market and service conditions (the Market Award). Subject to the holder's continued service, the Market Award provided for vesting in four equal tranches once the Company's stock price exceeded certain thresholds. The original grant-date fair value of the Market Award of $0.9 million was determined using a Monte Carlo simulation model using an expected volatility of 100.0% and risk-free rate of 1.6%.

In January 2022, the Company amended the terms of the Market Award such that the award would vest in three modified tranches. One tranche of 223,034 stock options was based on a performance condition and two tranches of 111,517 stock options each were based on revised Company stock price thresholds and/or vesting schedules, subject to the holder's continued service. The modification resulting in a performance-based tranche was determined to be a probable-to-improbable modification and the modification resulting in two revised market-based tranches were determined to be probable-to-probable modifications. The modification resulted in $0.3 million in total incremental expense.

In June 2023, the Company amended the terms such that vesting schedule for the two tranches of 111,517 stock options each that were based on the Company stock price thresholds would instead vest monthly over 3 years, subject to the holder's continued service. The modification of the two market-based tranches were deemed to be probable-to-probable modifications. The modification resulted in $0.1 million in total incremental expense.

The unrecognized original grant-date fair value, together with incremental expense, is recognized as compensation for each tranche over the requisite service period. For the six months ended June 30, 2022 and

2023, stock-based compensation related to the tranches was not material, and no expense was recognized for the performance-based tranche as the performance condition was not probable of being met.

Awards with Performance Conditions

In 2020, the Company approved 700,965 stock options and 892,136 restricted common stock to certain of the Company's scientific advisors, which vest based on the achievement of performance conditions to be determined and continued service to the Company. In December 2022, the Company's board of directors established performance conditions, consisting of certain development milestones, for 337,738 stock options and 382,344 restricted common stock such that the criteria for establishing a grant date, and accordingly a measurement date, were met for these performance stock options and performance restricted common. During the six months ended June 30, 2023, the conditions (and therefore the grant date) for an additional 63,724 stock options were established. As of June 30, 2023, it was probable that the milestones would be met for certain of the performance stock options and performance restricted stock that were granted and for which expense was recognized using the accelerated attribution method. For the six months ended June 30, 2023, the Company recognized expense of $0.4 million related to these awards with performance conditions that were probable of being met.

Stock-based Compensation

The following table summarizes total stock-based compensation included in the Company's condensed consolidated statements of operations and comprehensive loss:

	Six Months Ended June 30,	
	2022	2023
	(in thousands)	
Research and development	$ 1,635	$ 2,958
General and administrative	1,770	1,780
Total stock-based compensation	$ 3,405	$ 4,738

As of June 30, 2023, there was $34.5 million and $2.1 million of unrecognized stock-based compensation related to stock options and restricted stock awards outstanding, respectively, including stock options and restricted common stock for which achievement of milestones was not probable, which were expected to be recognized over a weighted-average remaining service period of 2.4 years and 1.0 year, respectively.

Services Agreement

In May 2020, the Company entered into a services agreement with a vendor for assistance in evaluating assets and technologies in the field of neurodegeneration. In return for services provided, the Company agreed to issue the vendor shares of its common stock representing a value of $1.0 million upon the achievement of certain milestones tied to the successful in-license or acquisition of assets (the Milestone Shares). The Company concluded the Milestone Shares are stock settled debt that are required to be classified as a liability and recognized at such time the milestones are probable of being met. As of June 30, 2023, the milestones were not probable of being met.

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

12. Net Loss Per Share

The following table summarizes the computation of basic and diluted net loss per share:

	Six Months Ended June 30, 2022	Six Months Ended June 30, 2023
	(in thousands, except per share amounts)	
Numerator:		
Net loss	$ (73,414)	$ (74,168)
Denominator:		
Weighted-average common shares outstanding, basic, and diluted	26,432	29,703
Net loss per share, basic and diluted	$ (2.78)	$ (2.50)

The following outstanding potentially dilutive common stock equivalents were excluded from the computation of diluted net loss per share for the periods presented because including them would have been antidilutive:

	June 30, 2022	June 30, 2023
	(in thousands)	
Convertible preferred stock	94,710	104,417
Preferred stock warrants	292	—
Common stock options	8,544	11,449
Performance stock options (with performance conditions to be established)	701	300
Early exercised stock options subject to future vesting	596	82
Unvested restricted stock awards	3,760	1,727
Performance restricted stock (with performance conditions to be established)	892	510
Total	109,495	118,485

13. Related Party Transactions

In September 2022, the Company issued 2,973,800 shares of its Series B convertible preferred stock for total cash proceeds of $35.0 million to two significant stockholders that have designated members on the Company's board of directors and each of whom is considered to be a related party (see Note 9).

In December 2022, 104,563 preferred stock warrants held by a related party were exercised at $10.60 per share (see Note 10).

As of December 31, 2022 and June 30, 2023, the Company was obligated to pay Amgen $6.3 million under the Amgen Collaboration Agreement, which was recorded within current liabilities on the condensed consolidated balance sheets. As of December 31, 2022 and June 30, 2023, $11.9 million and $8.1 million related to amounts prepayable to Amgen were recorded as prepaid expenses and other current assets, respectively, on the condensed consolidated balance sheets. During the six months ended June 30, 2022 and 2023, the Company recorded $14.3 million and $16.3 million of research and development expenses with Amgen, respectively (see Note 8).

NEUMORA THERAPEUTICS, INC.

Notes to Unaudited Condensed Consolidated Financial Statements

Subject to certain conditions, Amgen is also obligated to provide the Company with additional financing of up to $100.0 million. This obligation terminates upon the completion of a public offering of the Company's common stock (see Note 9).

14. Subsequent Events

The Company evaluated subsequent events through August 8, 2023, the date these condensed consolidated financial statements were available to be issued. The Company has also evaluated subsequent events through August 25, 2023 (except for the impact of the reverse stock split as discussed in the Reverse Stock Split paragraph of Note 1, as to which the date is September 11, 2023).

Awards with Performance Conditions Not Established

In July 2023, certain of the Company's scientific advisors were terminated. As a result, 299,503 stock options and 254,896 restricted common stock with performance conditions that were not established did not meet the criteria for establishing a grant date and a measurement date (see Note 11).

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14,710,000 Shares

Common Stock

Prospectus

J.P. Morgan	**BofA Securities**	**Stifel**	**Guggenheim Securities**	**RBC Capital Markets**	**William Blair**

, 2023

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of the common stock being registered. All amounts are estimates except for the Securities and Exchange Commission (SEC) registration fee, the Financial Industry Regulatory Authority (FINRA) filing fee and the Nasdaq Global Market (Nasdaq) listing fee.

	Amount Paid or to Be Paid
SEC registration fee	$ 33,556
FINRA filing fee	46,175
Nasdaq listing fee	250,000
Transfer agent’s fees and expenses	5,000
Printing and engraving expenses	1,000,000
Legal fees and expenses	1,900,000
Accounting fees and expenses	1,750,000
Blue Sky fees and expenses	40,000
Miscellaneous	75,269
Total	$ 5,100,000

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys’ fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending, or completed actions, suits, or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee, or agent to the registrant. The Delaware General Corporation Law provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise. Article 9 of the registrant’s amended and restated certificate of incorporation provides for indemnification by the registrant of its directors, officers, and employees to the fullest extent permitted by the Delaware General Corporation Law. The registrant has entered into indemnification agreements with each of its current directors, executive officers, and certain other officers to provide these directors and officers additional contractual assurances regarding the scope of the indemnification set forth in the registrant’s amended and restated certificate of incorporation and amended and restated bylaws and to provide additional procedural protections. There is no pending litigation or proceeding involving a director or executive officer of the registrant for which indemnification is sought.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director’s duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payments of dividends or unlawful stock repurchases, redemptions, or other distributions, or (iv) for any transaction from which the director derived an improper personal benefit. The registrant’s amended and restated certificate of incorporation provides for such limitation of liability.

The registrant maintains standard policies of insurance under which coverage is provided (a) to its directors and officers against loss rising from claims made by reason of breach of duty or other wrongful act, and (b) to the registrant with respect to payments that may be made by the registrant to such officers and directors pursuant to the above indemnification provision or otherwise as a matter of law.

The proposed form of underwriting agreement to be filed as Exhibit 1.1 to this registration statement provides for indemnification of directors and officers of the registrant by the underwriters against certain liabilities.

Item 15. Recent Sales of Unregistered Securities

Since its inception in November 2019, the registrant has sold the following securities without registration under the Securities Act of 1933:

(a) From January 2020 to May 2022, the registrant issued 23,472,829 shares of its common stock for proceeds of approximately $49,320.

(b) From May 2020 to September 2020, the registrant issued 6,692,103 shares of its common stock in connection with its issuance and sale of its Series A-2 convertible preferred stock for no additional consideration.

(c) In September 2020, the registrant issued 5,757,901 shares of its Series A-1 convertible preferred stock at $7.85 per share for gross proceeds of approximately $45.2 million, in connection with its acquisition of BlackThorn.

(d) In September 2020, the registrant issued 292,193 shares of its Series A-1 convertible preferred stock upon exercise of warrants for proceeds of approximately $3.1 million and in December 2022, warrants were exercised for 157,371 shares of Series A-1 convertible for gross proceeds of approximately $1.6 million. The warrants expired on December 31, 2022.

(e) In September 2020, the registrant issued 30,294,213 shares of its Series A-2 convertible preferred stock at $7.85 per share for gross proceeds of approximately $ 237.7 million, including conversion of the convertible promissory notes of an aggregate principal amount of approximately $55.9 million issued from February 2020 to September 2020.

(f) In November 2020, the registrant issued 1,529,383 shares of its Series A-2 convertible preferred stock at $7.85 per share for gross proceeds of $12.0 million, in connection with its acquisition of Alairion.

(g) From August 2021 to September 2021, the registrant issued 24,374,541 shares of its Series A-2 convertible preferred stock at $7.85 per share for gross proceeds of approximately $191.3 million.

(h) In September 2021, the registrant issued 12,744,860 shares of its Series A-2 convertible preferred stock at $7.85 per share for gross proceeds of approximately $100.0 million.

(i) In September 2021, the registrant issued 20,009,431 shares of its Series A-2 convertible preferred stock in connection with the entry into an intellectual property license arrangement.

(j) From September 2022 to October 2022, the registrant issued 9,549,715 shares of its Series B convertible preferred stock at $11.77 per share for gross proceeds of approximately $112.4 million.

(k) The registrant has granted equity awards under the 2015 Plan to its directors, officers, employees, and consultants, which awards consisted of 296,959 options to purchase an aggregate of 296,959 shares of its common stock at exercise prices ranging from $2.51 to $10.83 per share.

(l) The registrant has issued an aggregate of 32,374 shares of its common stock upon the exercise of options under our 2015 Plan for aggregate proceeds of approximately $239,726.

(m) The registrant has granted equity awards under the 2020 Plan its directors, officers, employees, and consultants, which awards consisted of 19,433,520 options to purchase an aggregate of 19,433,520 shares of its common stock at exercise prices ranging from $2.51 to $9.65 per share and 1,019,586 restricted stock awards issued at prices up to $6.35 per share.

(n) The registrant has issued an aggregate of 2,280,210 shares of its common stock upon the exercise of options under our 2020 Plan for aggregate proceeds of approximately $6.0 million.

The offers, sales and issuances of the securities described in Item 15(a) through 15(j) were exempt from registration under the Securities Act in reliance upon Section 4(a)(2) of the Securities Act or Regulation D promulgated thereunder as transactions by an issuer not involving any public offering. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients had adequate access, through their relationships with us, to information about our company.

The offers, sales, and issuances of the securities described in Item 15(k) through 15(n) were exempt from registration under the Securities Act under either Rule 701, in that the transaction were under compensatory benefit plans and contracts relating to compensation, or under Section 4(a)(2) of the Securities Act in that the transactions were between an issuer and members of its senior executive management and did not involve any public offering within the meaning of Section 4(a)(2). The recipients of such securities were our employees, directors or consultants. Appropriate legends were affixed to the securities issued in these transactions.

Item 16. Exhibits and Financial Statement Schedules

See the Exhibit Index attached to this registration statement, which Exhibit Index is incorporated herein by reference.

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings

(a) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer, or controlling person of the registrant in the successful defense of any action, suit, or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered hereunder, 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 of 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.

(b) The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
1.1	Form of Underwriting Agreement				X
2.1†	Agreement and Plan of Merger, dated June 1, 2020, by and among the Registrant, Berries Merger Sub, Inc, BlackThorn Therapeutics, Inc. and Fortis Advisors LLC	S-1	8/25/2023	2.1	
2.2†	Agreement and Plan of Merger, dated November 24, 2020, by and among the Registrant, Alairion Merger Sub I, Inc, Alairion Merger Sub II, LLC, Alairion, Inc. and John F. Lee	S-1	8/25/2023	2.2	
3.1	Amended and Restated Certificate of Incorporation, as amended, currently in effect	S-1	8/25/2023	3.1	
3.2	Form of Amended and Restated Certificate of Incorporation, to be in effect immediately prior to the completion of this offering	S-1	8/25/2023	3.2	
3.3	Bylaws, currently in effect	S-1	8/25/2023	3.3	
3.4	Form of Amended and Restated Bylaws, to be in effect immediately prior to the completion of this offering	S-1	8/25/2023	3.4	
4.1	Reference is made to Exhibits 3.1 through 3.4				
4.2	Form of Common Stock Certificate				X
5.1	Opinion of Latham & Watkins LLP				X
10.1	Investors' Rights Agreement, dated September 22, 2022, by and among the Registrant and the investors listed therein	S-1	8/25/2023	10.1	
10.2†	Research Collaboration and License Agreement, dated September 10, 2021, by and between the Registrant and Amgen Inc.	S-1	8/25/2023	10.2	
10.3†	Exclusive License Agreement for CK1d, dated September 10, 2021, by and between the Registrant and Amgen Inc.	S-1	8/25/2023	10.3	
10.4(a)†	Exclusive License Agreement for GCase, dated September 10, 2021, by and between the Registrant and Amgen Inc.	S-1	8/25/2023	10.4(a)	
10.4(b)†	First Amendment to Exclusive License Agreement for GCase, dated June 14, 2022, by and between the Registrant and Amgen, Inc.				X
10.5(a)†	License Agreement, dated November 23, 2015, by and between BlackThorn Therapeutics, Inc. and Scripps Research Institute	S-1	8/25/2023	10.5(a)	
10.5(b)†	First Amendment to License Agreement, dated November 13, 2017, by and between BlackThorn Therapeutics, Inc. and Scripps Research Institute	S-1	8/25/2023	10.5(b)	
10.5(c)†	Second Amendment to License Agreement, dated April 9, 2019, by and between BlackThorn Therapeutics, Inc. and Scripps Research Institute	S-1	8/25/2023	10.5(c)	
10.6(a)#	2020 Equity Incentive Plan	S-1	8/25/2023	10.6(a)	
10.6(b)#	Form of Stock Option Agreement under the 2020 Equity Incentive Plan	S-1	8/25/2023	10.6(b)	

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Filed Herewith
10.6(c)#	Form of Restricted Stock Purchase Agreement under the 2020 Equity Incentive Plan	S-1	8/25/2023	10.6(c)	
10.7(a)#	2023 Incentive Award Plan	S-1	8/25/2023	10.7(a)	
10.7(b)#	Form of Stock Option Grant Notice and Stock Option Agreement under the 2023 Incentive Award Plan	S-1	8/25/2023	10.7(b)	
10.7(c)#	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2023 Incentive Award Plan	S-1	8/25/2023	10.7(c)	
10.8#	Employee Stock Purchase Plan	S-1	8/25/2023	10.8	
10.9#	Employment Agreement by and between the Registrant and Paul L. Berns	S-1	8/25/2023	10.9	
10.10#	Employment Agreement by and between the Registrant and John Dunlop, Ph.D.	S-1	8/25/2023	10.10	
10.11#	Employment Agreement by and between the Registrant and Joshua Pinto, Ph.D.	S-1	8/25/2023	10.11	
10.12#	Non-Employee Director Compensation Program	S-1	8/25/2023	10.12	
10.13	Form of Indemnification and Advancement Agreement for directors and officers				X
10.14(a)†	License Agreement, dated February 10, 2022, by and between the Registrant and Vanderbilt University	S-1	8/25/2023	10.14(a)	
10.14(b)†	First Amendment to License Agreement, dated July 17, 2023, by and between the Registrant and Vanderbilt University	S-1	8/25/2023	10.14(b)	
10.15#	Form of Executive Employment Agreement	S-1	8/25/2023	10.15	
10.16#	Form of Executive Employment Agreement for Chief Executive Officer	S-1	8/25/2023	10.16	
10.17#	Separation Agreement by and between the Registrant and John Dunlop, Ph.D.	S-1	8/25/2023	10.17	
10.18#	Consulting Agreement, dated as of May 20, 2023, by and between the Registrant and John Dunlop, Ph.D.	S-1	8/25/2023	10.18	
10.19#	Executive Chairman Agreement, dated as of July 3, 2023, by and between the Registrant and Paul L. Berns	S-1	8/25/2023	10.19	
10.20#	Executive Employment Agreement, dated as of June 2, 2023, by and between the Registrant and Henry O. Gosebruch	S-1	8/25/2023	10.20	
10.21#	Non-Employee Director Compensation Program				X
23.1	Consent of Independent Registered Public Accounting Firm				X
23.2	Consent of Latham & Watkins LLP (included in Exhibit 5.1)				X
24.1	Power of Attorney (reference is made to the signature page to the Registration Statement)	S-1	8/25/2023	24.1	
107	Filing Fee Table				X

* To be filed by amendment.
** Previously filed.
\# Indicates management contract or compensatory plan.
† Certain portions of this document that constitute confidential information have been redacted in accordance with Regulation S-K, Item 601(b)(10).

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Watertown, State of Massachusetts, on the 11th day of September, 2023.

NEUMORA THERAPEUTICS, INC.

By:	/s/ Henry O. Gosebruch
Name:	Henry O. Gosebruch
Title:	Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Henry O. Gosebruch and Joshua Pinto, Ph.D. and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place, and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement and any and all additional registration statements pursuant to Rule 462(b) of the Securities Act of 1933, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agents full power and authority to do and perform each and every act in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or either of them or their or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Henry O. Gosebruch Henry O. Gosebruch	Chief Executive Officer (principal executive officer)	September 11, 2023
/s/ Joshua Pinto, Ph.D. Joshua Pinto, Ph.D.	Chief Financial Officer (principal financial officer)	September 11, 2023
/s/ Michael Milligan Michael Milligan	Principal Accounting Officer	September 11, 2023
* Paul L. Berns	Executive Chairman	September 11, 2023
* Kristina Burow	Director	September 11, 2023
* Matthew Fust	Director	September 11, 2023
* Alaa Halawa	Director	September 11, 2023
* Maykin Ho, Ph.D.	Director	September 11, 2023
/s/ David Piacquad David Piacquad	Director	September 11, 2023

*By:
/s/ Henry O. Gosebruch
Henry O. Gosebruch
Attorney-in-Fact

Exhibit 1.1

Neumora Therapeutics, Inc.

[●] Shares of Common Stock, par value $0.0001 per share

Underwriting Agreement

[●], 2023

J.P. Morgan Securities LLC
BofA Securities, Inc.

As Representatives of the
several Underwriters listed
in Schedule 1 hereto

c/o J.P. Morgan Securities LLC
383 Madison Avenue
New York, NY 10179

c/o BofA Securities, Inc.
One Bryant Park
New York, NY 10036

Ladies and Gentlemen:

Neumora Therapeutics, Inc., a Delaware corporation (the "Company"), proposes to issue and sell to the several underwriters listed in Schedule 1 hereto (the "Underwriters"), for whom J.P. Morgan Securities LLC and BofA Securities, Inc. are acting as representatives (the "Representatives"), an aggregate of [●] shares of common stock, par value $0.0001 per share ("Common Stock"), of the Company (the "Underwritten Shares") and, at the option of the Underwriters, up to an additional [●] shares of Common Stock of the Company (the "Option Shares"). The Underwritten Shares and the Option Shares are herein referred to as the "Shares". The shares of Common Stock of the Company to be outstanding after giving effect to the sale of the Shares are referred to herein as the "Stock".

The Company hereby confirms its agreement with the several Underwriters concerning the purchase and sale of the Shares, as follows:

1. Registration Statement. The Company has prepared and filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder (collectively, the "Securities Act"), a registration statement on Form S-1 (File No. 333-274229), including a prospectus, relating to the Shares. Such registration statement, as amended at the time it became effective, including the information, if any, deemed pursuant to Rule 430A, 430B or 430C under the Securities Act to be part of the registration statement at the time of its effectiveness ("Rule 430 Information"), is referred to herein as the "Registration Statement"; and as used herein, the term "Preliminary Prospectus" means each prospectus included in such registration statement (and any amendments thereto) before effectiveness, any prospectus filed with the Commission pursuant to Rule 424(a) under the Securities Act and the prospectus included in the Registration Statement at the time of its effectiveness that omits Rule 430 Information, and the term "Prospectus" means the prospectus in the form first used (or made available upon request of purchasers pursuant to Rule 173 under the Securities Act) in connection with confirmation of sales of the Shares. If the Company has filed an abbreviated registration statement pursuant to Rule 462(b) under the Securities Act (the "Rule 462 Registration

Statement”), then any reference herein to the term “Registration Statement” shall be deemed to include such Rule 462 Registration Statement. Capitalized terms used but not defined herein shall have the meanings given to such terms in the Registration Statement and the Prospectus.

At or prior to the Applicable Time (as defined below), the Company had prepared the following information (collectively with the pricing information set forth on Annex A, the “Pricing Disclosure Package”): a Preliminary Prospectus dated [●], 2023 and each “free-writing prospectus” (as defined pursuant to Rule 405 under the Securities Act) listed on Annex A hereto.

“Applicable Time” means [●] [A/P].M., New York City time, on [●], 2023.

2. Purchase of the Shares.

(a) The Company agrees to issue and sell the Underwritten Shares to the several Underwriters as provided in this underwriting agreement (this “Agreement”), and each Underwriter, on the basis of the representations, warranties and agreements set forth herein and subject to the conditions set forth herein, agrees, severally and not jointly, to purchase at a price per share of $[●] (the “Purchase Price”) from the Company the respective number of Underwritten Shares set forth opposite such Underwriter’s name in Schedule 1 hereto.

In addition, the Company agrees to issue and sell the Option Shares to the several Underwriters as provided in this Agreement, and the Underwriters, on the basis of the representations, warranties and agreements set forth herein and subject to the conditions set forth herein, shall have the option to purchase, severally and not jointly, from the Company the Option Shares at the Purchase Price less an amount per share equal to any dividends or distributions declared by the Company and payable on the Underwritten Shares but not payable on the Option Shares.

If any Option Shares are to be purchased, the number of Option Shares to be purchased by each Underwriter shall be the number of Option Shares which bears the same ratio to the aggregate number of Option Shares being purchased as the number of Underwritten Shares set forth opposite the name of such Underwriter in Schedule 1 hereto (or such number increased as set forth in Section 10 hereof) bears to the aggregate number of Underwritten Shares being purchased from the Company by the several Underwriters, subject, however, to such adjustments to eliminate any fractional Shares as the Representatives in their sole discretion shall make.

The Underwriters may exercise the option to purchase Option Shares at any time in whole, or from time to time in part, on or before the thirtieth day following the date of the Prospectus, by written notice from the Representatives to the Company. Such notice shall set forth the aggregate number of Option Shares as to which the option is being exercised and the date and time when the Option Shares are to be delivered and paid for, which may be the same date and time as the Closing Date (as hereinafter defined) but shall not be earlier than the Closing Date nor later than the tenth full business day (as hereinafter defined) after the date of such notice (unless such time and date are postponed in accordance with the provisions of Section 10 hereof). Any such notice shall be given at least two business days prior to the date and time of delivery specified therein.

(b) The Company understands that the Underwriters intend to make a public offering of the Shares, and initially to offer the Shares on the terms set forth in the Pricing Disclosure Package. The Company acknowledges and agrees that the Underwriters may offer and sell Shares to or through any affiliate of an Underwriter.

(c) Payment for the Shares shall be made by wire transfer in immediately available funds to the account specified by the Company to the Representatives in the case of the Underwritten Shares, at the offices of Cooley LLP, counsel for the Underwriters, at 10265 Science Center Drive, San Diego, CA 92121-1117, at 10:00 A.M., New York City time, on [●], 2023, or at such other time or place on the same or such other date, not later than the fifth business day thereafter, as the Representatives and the Company may agree upon in writing or, in the case of the Option Shares, on the date and at the time and place specified by the Representatives in the written notice of the Underwriters' election to purchase such Option Shares. The time and date of such payment for the Underwritten Shares is referred to herein as the "Closing Date", and the time and date for such payment for the Option Shares, if other than the Closing Date, is herein referred to as the "Additional Closing Date".

(d) Payment for the Shares to be purchased on the Closing Date or the Additional Closing Date, as the case may be, shall be made against delivery to the Representatives for the respective accounts of the several Underwriters of the Shares to be purchased on such date or the Additional Closing Date, as the case may be, with any transfer taxes payable in connection with the sale of such Shares duly paid by the Company. Delivery of the Shares shall be made through the facilities of The Depository Trust Company unless the Representatives shall otherwise instruct.

(e) The Company acknowledges and agrees that the Representatives and the other Underwriters are acting solely in the capacity of an arm's length contractual counterparty to the Company with respect to the offering of Shares contemplated hereby (including in connection with determining the terms of the offering) and not as a financial advisor or a fiduciary to, or an agent of, the Company or any other person. Additionally, neither the Representatives nor any other Underwriter is advising the Company or any other person as to any legal, tax, investment, accounting or regulatory matters in any jurisdiction. The Company shall consult with its own advisors concerning such matters and shall be responsible for making its own independent investigation and appraisal of the transactions contemplated hereby, and neither the Representatives nor the other Underwriters shall have any responsibility or liability to the Company with respect thereto. Any review by the Representatives and the other Underwriters of the Company, the transactions contemplated hereby or other matters relating to such transactions will be performed solely for the benefit of the Underwriters and shall not be on behalf of the Company.

3. Representations and Warranties of the Company. The Company represents and warrants to each Underwriter that:

(a) *Preliminary Prospectus.* No order preventing or suspending the use of any Preliminary Prospectus has been issued by the Commission, and each Preliminary Prospectus included in the Pricing Disclosure Package, at the time of filing thereof, complied in all material respects with the applicable provisions of the Securities Act, and no Preliminary Prospectus, at the time of filing thereof, contained any untrue statement of a material fact or omitted to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation or warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in any Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof.

(b) *Pricing Disclosure Package*. The Pricing Disclosure Package as of the Applicable Time did not, and as of the Closing Date and as of the Additional Closing Date, as the case may be, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation or warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in such Pricing Disclosure Package, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof. No statement of material fact included in the Prospectus has been omitted from the Pricing Disclosure Package and no statement of material fact included in the Pricing Disclosure Package that is required to be included in the Prospectus has been omitted therefrom.

(c) *Issuer Free Writing Prospectus.* Other than the Registration Statement, the Preliminary Prospectus and the Prospectus, the Company (including its agents and representatives, other than the Underwriters in their capacity as such) has not prepared, made, used, authorized, approved or referred to and will not prepare, make, use, authorize, approve or refer to any "written communication" (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or solicitation of an offer to buy the Shares (each such communication by the Company or its agents and representatives (other than a communication referred to in clause (i) below) an "Issuer Free Writing Prospectus") other than (i) any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134 under the Securities Act or (ii) the documents listed on Annex A hereto, each electronic road show and any other written communications approved in writing in advance by the Representatives. Each such Issuer Free Writing Prospectus complies in all material respects with the Securities Act, has been or will be (within the time period specified in Rule 433) filed in accordance with the Securities Act (to the extent required thereby) and does not conflict with the information contained in the Registration Statement or the Pricing Disclosure Package, and, when taken together with the Preliminary Prospectus accompanying, or delivered prior to delivery of, such Issuer Free Writing Prospectus, did not, and as of the Closing Date and as of the Additional Closing Date, as the case may be, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation or warranty with respect to any statements or omissions made in each such Issuer Free Writing Prospectus or Preliminary Prospectus in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in such Issuer Free Writing Prospectus or Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof.

(d) *Emerging Growth Company*. From the time of initial confidential submission of the Registration Statement to the Commission (or, if earlier, the first date on which the Company engaged directly or through any person authorized to act on its behalf in any Testing-the-Waters Communication undertaken in reliance on Section 5(d) of the Securities Act) through the date hereof, the Company has been and is an "emerging growth company," as defined in Section 2(a) of the Securities Act (an "Emerging Growth Company"). "Testing-the-Waters Communication" means any oral or written communication with potential investors undertaken in reliance on either Section 5(d) of, or Rule 163B under, the Securities Act.

(e) *Testing-the-Waters Materials.* The Company (i) has not alone engaged in any Testing-the-Waters Communications other than Testing-the-Waters Communications with the consent of the Representatives (x) with entities that are qualified institutional buyers ("QIBs") within the meaning of Rule 144A under the Securities Act or institutions that are accredited investors within the meaning of Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act ("IAIs") and otherwise in compliance with the requirements of Section 5(d) of the Securities Act or (y) with entities that the Company reasonably believed to be QIBs or IAIs and otherwise in compliance with the requirements of Rule 163B under the Securities Act and (ii) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications by virtue of a writing substantially in the form of Exhibit D hereto. The Company has not distributed or approved for distribution any Written Testing-the-Waters Communications other than those listed on Annex B hereto. “Written Testing-the-Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Securities Act. Any individual Written Testing-the-Waters Communication does not conflict with the information contained in the Registration Statement or the Pricing Disclosure Package, complied in all material respects with the Securities Act, and when taken together with the Pricing Disclosure Package as of the Applicable Time, did not, and as of the Closing Date and as of the Additional Closing Date, as the case may be, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(f) *Registration Statement and Prospectus.* The Registration Statement has been declared effective by the Commission. No order suspending the effectiveness of the Registration Statement has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act against the Company or related to the offering of the Shares has been initiated or, to the knowledge of the Company, threatened by the Commission; as of the applicable effective date of the Registration Statement and any post-effective amendment thereto, the Registration Statement and any such post-effective amendment complied and will comply in all material respects with the Securities Act, and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading; and as of the date of the Prospectus and any amendment or supplement thereto and as of the Closing Date and as of the Additional Closing Date, as the case may be, the Prospectus complied with and will comply in all material respects with the applicable requirements of the Securities Act and will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation or warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement and the Prospectus and any amendment or supplement thereto, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof.

(g) *Financial Statements.* The financial statements (including the related notes thereto) of the Company and its consolidated subsidiaries included in the Registration Statement, the Pricing Disclosure Package and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and present fairly in all material respects the financial position of the Company and its consolidated subsidiaries as of the dates indicated and the results of their operations and the changes in their cash flows for the periods specified; such financial statements have been prepared in conformity with generally accepted accounting principles (“GAAP”) in the United States applied on a consistent basis throughout the periods covered thereby, and any supporting schedules included in the Registration Statement present fairly in all material respects the information required to be stated therein; and the other financial information included in the Registration Statement, the Pricing Disclosure Package and the Prospectus has been derived from the accounting records of the Company and its consolidated subsidiaries and presents fairly in all material respects the information shown thereby.

(h) *No Material Adverse Change.* Since the date of the most recent financial statements of the Company included in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (i) there has not been any material change in the capital stock (other than the issuance of shares of Common Stock upon exercise (including any “net” or “cashless” exercise) of stock options and warrants described as outstanding in, and the grant of options and awards under existing equity incentive plans described in, the Registration Statement, the Pricing Disclosure Package and the Prospectus), short-term debt or long-term debt of the Company or any of its subsidiaries, or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries taken as a whole; (ii) neither the Company nor any of its subsidiaries has entered into any transaction or agreement (whether or not in the ordinary course of business) that is material to the Company and its subsidiaries taken as a whole or incurred any liability or obligation, direct or contingent, that is material to the Company and its subsidiaries taken as a whole; and (iii) neither the Company nor any of its subsidiaries has sustained any loss or interference with its business that is material to the Company and its subsidiaries taken as a whole and that is either from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority; except, in the case of clauses (i) and (ii) above, as otherwise disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(i) *Organization and Good Standing.* The Company and each of its subsidiaries have been duly organized and are validly existing and in good standing under the laws of their respective jurisdictions of organization, are duly qualified to do business and are in good standing in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification, and have all power and authority necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries taken as a whole or on the performance by the Company of its obligations under this Agreement (a "Material Adverse Effect"). The Company does not have any significant subsidiaries, as such term is defined in Rule 1-02(w) of Regulation S-X promulgated by the Commission.

(j) *Capitalization.* The Company has an authorized capitalization as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus under the heading "Capitalization" and "Description of Capital Stock"; all the outstanding shares of capital stock of the Company have been duly and validly authorized and issued and are fully paid and non-assessable and are not subject to any pre-emptive or similar rights that have not been duly waived or satisfied; there are no outstanding rights (including, without limitation, pre-emptive rights), warrants or options to acquire, or instruments convertible into or exchangeable for, any shares of capital stock or other equity interest in the Company or any of its subsidiaries, or any contract, commitment, agreement, understanding or arrangement of any kind relating to the issuance of any capital stock of the Company or any such subsidiary, any such convertible or exchangeable securities or any such rights, warrants or options; the capital stock of the Company conforms in all material respects to the description thereof contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and all the outstanding shares of capital stock or other equity interests of each subsidiary owned, directly or indirectly, by the Company have been duly and validly authorized and issued, are fully paid and non-assessable and are owned directly or indirectly by the Company, free and clear of any lien, charge, encumbrance, security interest, restriction on voting or transfer or any other claim of any third party.

(k) *Stock Options.* With respect to the stock options (the "Stock Options") granted pursuant to the stock-based compensation plans of the Company and its subsidiaries (the "Company Stock Plans"), except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, (i) each Stock Option intended to qualify as an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code") so qualifies, (ii) each grant of a Stock Option was duly authorized no later than the date on which the grant of such Stock Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required stockholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto, (iii) each such grant was made in accordance with the terms of the Company Stock Plans, any applicable provisions of the Exchange Act and all other applicable laws and regulatory rules or requirements, including the rules of the Nasdaq Global Market ("Nasdaq Market") and any other exchange on which Company securities are traded, and (iv) each such grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of the Company.

(l) *Due Authorization.* The Company has full right, power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and all action required to be taken by the Company for the due and proper authorization, execution and delivery by it of this Agreement and the consummation by it of the transactions contemplated hereby has been duly and validly taken.

(m) *Underwriting Agreement.* This Agreement has been duly authorized, executed and delivered by the Company.

(n) *The Shares.* The Shares to be issued and sold by the Company hereunder have been duly authorized by the Company and, when issued and delivered and paid for as provided herein, will be duly and validly issued, will be fully paid and nonassessable and will conform in all material respects to the descriptions thereof in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and the issuance of the Shares is not subject to any preemptive or similar rights that have not been duly waived or satisfied.

(o) *Listing.* The Shares have been approved for listing on the Nasdaq Market, subject to notice of issuance.

(p) *Description of the Underwriting Agreement.* This Agreement conforms in all material respects to the description thereof contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(q) *No Violation or Default.* Neither the Company nor any of its subsidiaries is (i) in violation of its charter or by-laws or similar organizational documents; (ii) in default, and no event has occurred that, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any property or asset of the Company or any of its subsidiaries is subject; or (iii) in violation of any applicable law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, having jurisdiction over the Company and its subsidiaries, except, in the case of clauses (ii) and (iii) above, for any such default or violation that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(r) *No Conflicts.* The execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Shares and the consummation of by the Company the transactions contemplated by this Agreement or the Pricing Disclosure Package and the Prospectus will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, result in the termination, modification or acceleration of, or result in the creation or imposition of any lien, charge or encumbrance upon any property, right or asset of the Company or any of its subsidiaries pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any property, right or asset of the Company or any of its subsidiaries is subject, (ii) result in any violation of the provisions of the charter or by-laws or similar organizational documents of the Company or any of its subsidiaries or (iii) result in the violation of any applicable law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, having jurisdiction over the Company and its subsidiaries, except, in the case of clauses (i) and (iii) above, for any such conflict, breach, violation, default, lien, charge or encumbrance that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(s) *No Consents Required.* No consent, filing, approval, authorization, order, license, registration or qualification of or with any court or arbitrator or governmental or regulatory authority having jurisdiction over the Company is required for the execution, delivery and performance by the Company of this Agreement, the issuance and sale by the Company of the Shares and the consummation of the transactions contemplated by this Agreement, except for the registration of the Shares under the Securities Act and such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Financial Industry Regulatory Authority, Inc. ("FINRA") and under applicable state securities laws in connection with the purchase and distribution of the Shares by the Underwriters.

(t) *Legal Proceedings.* There are no legal, governmental or regulatory investigations, actions, demands, claims, suits, arbitrations, inquiries or proceedings ("Actions") pending to which the Company or any of its subsidiaries is or may be a party or to which any property of the Company or any of its subsidiaries is or may be the subject that, individually or in the aggregate, if determined adversely to the Company or any of its subsidiaries, would reasonably be expected to have a Material Adverse Effect; to the knowledge of the Company, no such Actions are threatened or contemplated by any governmental or regulatory authority or threatened by others that would reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect; and (i) there are no current or pending Actions that are required under the Securities Act to be described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so described in the Registration Statement, the Pricing Disclosure Package and the Prospectus and (ii) there are no statutes, regulations or contracts or other documents that are required under the Securities Act to be filed as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so filed as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(u) *Independent Accountants*. Ernst & Young LLP, who has certified certain financial statements of the Company and its subsidiaries is an independent registered public accounting firm with respect to the Company and its subsidiaries within the applicable rules and regulations adopted by the Commission and the Public Company Accounting Oversight Board (United States) and as required by the Securities Act.

(v) *Title to Real and Personal Property*. The Company and its subsidiaries have good and marketable title in fee simple to, or have valid rights to lease or otherwise use, all items of real and personal property that are material to the respective businesses of the Company and its subsidiaries (other than with respect to Intellectual Property (defined below), title to which is addressed exclusively in subsection (w) below), in each case free and clear of all liens, encumbrances, claims and defects and imperfections of title except those that (i) do not materially interfere with the use made and proposed to be made of such property by the Company and its subsidiaries or (ii) could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(w) *Title to Intellectual Property*. The Company and its subsidiaries own all rights, title and interest in, or possess valid and enforceable licensed rights to use, all material patents, patent applications, trademarks, service marks, trade names, trademark applications, trademark registrations, service mark registrations, trade dress, designs, data, database rights, Internet domain names, copyrights, works of authorship, licenses, proprietary information and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) for the conduct of their respective businesses as currently conducted and as proposed to be conducted as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus ("Disclosure Documents") (collectively, "Intellectual Property"), and, to the Company's knowledge, the conduct of their respective businesses as described in the Disclosure Documents does not and will not infringe, misappropriate or otherwise conflict with any such rights of others. The Intellectual Property of the Company has not been adjudged by a court of competent jurisdiction to be invalid or unenforceable, in whole or in part. The Company and its subsidiaries have not received any written notice of any claim of infringement, misappropriation or conflict with any intellectual property rights of another. To the Company's knowledge: (i) there are no third parties who have rights to any Intellectual Property, except for customary reversionary rights of third-party licensors with respect to Intellectual Property that is disclosed in the Disclosure Documents as owned by or licensed to the Company or its subsidiaries; and (ii) there is no infringement by third parties of any Intellectual Property. There is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others: (A) challenging the Company's rights in or to any Intellectual Property; (B) challenging the validity, enforceability or scope of any Intellectual Property; or (C) asserting that the Company or its subsidiaries infringe, misappropriate, or otherwise violate, or would, upon the commercialization of any product or service described in the Disclosure Documents as under development, infringe, misappropriate, or otherwise violate, any intellectual property rights of others, except as would not, in each case (A) to (C), individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The Company and its subsidiaries have complied in all material respects with the terms of each agreement pursuant to which Intellectual Property has been licensed to the Company or its subsidiaries, and all such agreements are in full force and effect. To the Company's knowledge, there are no material defects in any of the patents or patent applications included in the Intellectual Property. The Company and its subsidiaries have taken all reasonable steps to protect, maintain and safeguard their Intellectual Property, including the execution of appropriate nondisclosure, confidentiality agreements and invention assignment agreements and invention assignments with their employees, and, to the Company's knowledge, no employee of the Company is in or has been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement, or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company. To the Company's knowledge, the duty of candor and good faith as required by the United States Patent and Trademark Office during the prosecution of the United States patents and patent applications included in the Intellectual Property have been complied with; and in all foreign offices having similar requirements, all such requirements have been complied with. To the Company's knowledge, none of the Company owned Intellectual Property or technology (including information technology and outsourced arrangements) employed by the Company or its subsidiaries has been obtained or is being used by the Company or its subsidiary in violation of any contractual obligation binding on the Company or its subsidiaries or any of their respective officers, directors or employees or otherwise in violation of the rights of any persons. To the Company's knowledge, all licenses for the use of the Intellectual Property Rights described in the Disclosure Documents are valid, binding upon, and enforceable by or against the parties thereto in accordance to its terms. The Company has complied in all material respects with, and is not in breach nor has received any asserted or threatened claim of breach of any Intellectual Property license, and the Company has no knowledge of any breach or anticipated breach by any other person to any Intellectual Property license. The product candidates described in the Disclosure Documents as under development by the Company or its subsidiaries fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company or its subsidiaries, except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(x) *Trade Secrets*. The Company and its subsidiaries have taken reasonable and customary actions to protect their rights in and prevent the unauthorized use and disclosure of material trade secrets and confidential business information (including confidential source code, ideas, research and development information, know-how, formulas, compositions, technical data, designs, drawings, specifications, research records, records of inventions, test information, financial, marketing and business data, customer and supplier lists and information, pricing and cost information, business and marketing plans and proposals) owned by the Company and its subsidiaries, and, to the Company's knowledge, there has been no unauthorized use or disclosure of such material trade secrets and confidential business information.

(y) *IT Assets*. Except as would not be expected, individually or in the aggregate, to result in a Material Adverse Effect, (i) the computers, websites, applications, databases, software, servers, networks, data communications lines, and other information technology systems owned, licensed, leased or otherwise used by the Company and its subsidiaries (including any third party technology but excluding any public networks) (collectively, the "IT Assets") are adequate for, and operate and perform as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted, and to the knowledge of the Company, are free and clear of all viruses, vulnerabilities, bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants, (ii) the Company and its subsidiaries have implemented and maintained commercially reasonable controls, policies, procedures, and safeguards designed to maintain and protect their confidential information and the privacy, confidentiality, integrity, continuous operation, redundancy and security of IT Assets, Personal Data (defined below) confidential data, or sensitive data (collectively, "Confidential Data"), used in connection with their businesses, and (iii) for the past three years, there have been no breaches of, violations of, outages of, or unlawful or unauthorized uses of, destruction of, losses of, alterations of, or accesses to IT Assets and no unlawful or unauthorized uses of, destruction of, losses of, alterations of, or accesses to Confidential Data, nor any such incidents under internal review or investigation in relation to the same.

(z) *Compliance with Data Privacy Laws*. Except as would not be expected, individually or in the aggregate, to result in a Material Adverse Effect, for the past three years, the Company and its subsidiaries comply and have complied with, (i) applicable laws, statutes and regulations of any governmental or regulatory authority concerning the protection, collection, use, disclosure, transfer, storage, disposal, privacy, confidentiality, integrity and security of Confidential Data (collectively, the "Privacy Laws"), (ii) all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority binding on the Company that concerns the Company's and its subsidiaries processing of Confidential Data, (iii) the Company's and its subsidiaries' privacy policies and procedures, and (iv) contractual obligations to which the Company and its subsidiaries have agreed in writing relating to the privacy and security of IT Assets and Confidential Data and to the protection of such IT Assets and Confidential Data from unlawful or unauthorized use, destruction, loss, alteration, access, misappropriation or modification, and have used commercially reasonable efforts to impose equivalent contractual obligations on any third parties having direct or indirect access to IT Assets or responsible for processing Confidential Data on behalf of the Company (collectively, the "Data Protection Requirements"). Except as would not be expected, individually or in the aggregate, to result in a Material Adverse Effect, for the past three years, (i) the Company and its subsidiaries, and to the knowledge of the Company, any third parties processing Personal Data on behalf of Company and its subsidiaries, have made required disclosures to and obtained necessary consents from individuals for, the Company's and its subsidiaries' collection, use, disclosure, transfer, and other processing of Personal Data, to the extent required by the Privacy Laws, and complied with all such disclosures and consents, and (ii) to the knowledge of the Company, none of such disclosures made or contained in any policies or notices have been inaccurate, misleading, deceptive, incomplete, or in violation of any Data Protection Requirements. "Personal Data" has the same meaning as "personal data", "personal information", "personally identifiable information", or the equivalent under any Privacy Law.

(aa) *No Complaints*. For the past three years, neither the Company nor any of its subsidiaries have received any written complaints or notices of any audit, proceeding, investigation (formal or informal) demand or claim made against the Company or its subsidiaries, and to the knowledge of the Company, none are currently pending against, the Company or its subsidiaries, by any person, governmental or regulatory authority, or other third party in respect of the collection, use, disclosure, transfer, or other processing of Confidential Data by the Company or its subsidiaries, and, to the knowledge of the Company, no such complaint, audit, proceeding, investigation or claim is or has been threatened.

(bb) *FDA Compliance*. Except in each case as would not, whether individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company: (A) is and at all times during the past three years has been in compliance with all applicable statutes, rules or regulations enforced by the U.S. Food and Drug Administration ("FDA") and other comparable governmental entities having authority over the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product under development, manufactured or distributed by the Company ("Applicable Laws"); (B) has not received any FDA Form-483, written notice of adverse finding, warning letter, untitled letter or other correspondence or written notice from the FDA or any governmental entity alleging or asserting noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws ("Authorizations"); (C) possesses all Authorizations and such Authorizations are valid and in full force and effect and the Company is not in violation of any term of any such Authorizations; (D) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any governmental entity or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations and has no knowledge that the FDA or any governmental entity or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; and (E) has not received written notice that the FDA or any governmental entity has taken, is taking or intends to take action to limit, suspend, or revoke any Authorizations and has no knowledge that the FDA or any governmental entity is considering such action).

(cc) *Tests and Preclinical and Clinical Trials*. The studies, tests and preclinical and clinical trials conducted by or, to the Company's knowledge, on behalf of the Company were and, if still ongoing, are being conducted in all material respects in accordance with all Authorizations and Applicable Laws, and any applicable rules, regulations and policies of the jurisdiction in which such trials and studies are being conducted; the descriptions of the results of such studies, tests and trials contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus are, to the Company's knowledge, accurate and in all material respects; the Company is not aware of any studies, tests or trials, the results of which the Company believes reasonably call into question the study, test, or trial results described or referred to in the Registration Statement, the Pricing Disclosure Package and the Prospectus when viewed in the context in which such results are described and the clinical state of development; and the Company has not received any written notices or correspondence from the FDA or any governmental entity requiring the termination or suspension of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials.

(dd) *Compliance with Health Care Laws*. Except as would not, whether individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries are, and at all times during the past three years have been, in compliance with all applicable Health Care Laws. For purposes of this Agreement, "Health Care Laws" means: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.); (ii) all federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal False Statements Law

(42 U.S.C. Section 1320a-7b(a)), all criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286, 287 and 1349, the health care fraud criminal provisions under HIPAA (defined below), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusions law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C Section 1320-7h), and the laws governing U.S. government funded or sponsored healthcare programs; (iii) all other comparable local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company or its subsidiaries; (iv) the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, HIPAA"); and (v) the regulations promulgated pursuant to such statutes and any state or non-U.S. counterpart thereof. None of the Company, any of its subsidiaries, nor, to the Company's knowledge, any of their respective officers, directors, employees or agents have engaged in activities which are, as applicable, cause for liability under an applicable Health Care Law during the past three years, except, in each case, as would not, whether individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. During the past three years, neither the Company nor any of its subsidiaries has received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any applicable Health Care Laws nor, to the Company's knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. During the past three years, the Company and its subsidiaries have filed, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all respects (or were corrected or supplemented by a subsequent submission), except where the failures to so file, maintain, submit, correct or supplement the same would not, whether individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Neither the Company nor any of its subsidiaries is a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority or body. Additionally, during the past three years, none of the Company, any of its subsidiaries, or any of their respective employees, officers, directors, or, to the Company's knowledge, independent contractors, affiliates or agents, has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion, or, to the Company's knowledge, engaged in any conduct that would reasonably be expected to result in such debarment, suspension, or exclusion.

(ee) *No Undisclosed Relationships*. No relationship, direct or indirect, exists between or among the Company or any of its subsidiaries, on the one hand, and the directors, officers, stockholders, customers, suppliers or other affiliates of the Company or any of its subsidiaries, on the other, that is required by the Securities Act to be described in each of the Registration Statement and the Prospectus and that is not so described in such documents and in the Pricing Disclosure Package.

(ff) *Investment Company Act*. The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, will not be required to register as an "investment company" or an entity "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder (collectively, the "Investment Company Act").

(gg) *Taxes*. The Company and its subsidiaries have paid all federal, state, local and foreign taxes and filed all tax returns required to be paid or filed through the date hereof and there is no tax deficiency that has been, or could reasonably be expected to be, asserted against the Company or any of its subsidiaries or any of their respective properties or assets; in each case, except as would not, individually or in the aggregate, have a Material Adverse Effect.

(hh) *Licenses and Permits.* Except in each case as would not, whether individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company and its subsidiaries possess, and are in compliance with the terms of, all licenses, sub-licenses, certificates, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus; and neither the Company nor any of its subsidiaries has received written notice of any revocation or modification of any such license, sub-license, certificate, permit or authorization or has any reason to believe that any such license, sub-license, certificate, permit or authorization will not be renewed in the ordinary course. Each of the Company and its subsidiaries has fulfilled and performed all of its respective obligations with respect to the Licenses, and no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other impairment of the rights of the holder, except where such failures to fulfill or perform, or where such revocations, terminations or impairments would not, whether individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The Company and its subsidiaries have filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct on the date filed (or were corrected or supplemented by a subsequent submission) as required for maintenance of their licenses, certificates, permits and other authorizations that are necessary for the conduct of their respective businesses, except where the failures to so file, obtain, maintain, submit, correct or supplement the same would not, whether individually or in the aggregate, reasonably be expected to have a Material Adverse Effect ..

(ii) *No Labor Disputes.* No labor disturbance by or dispute with employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of its or its subsidiaries' principal suppliers, contractors or customers, except as would not reasonably be expected to have a Material Adverse Effect. Neither the Company nor any of its subsidiaries has received any notice of cancellation or termination with respect to any collective bargaining agreement to which it is a party.

(jj) *Certain Environmental Matters.* (i) The Company and its subsidiaries (x) are in compliance with all, and have not violated any, applicable federal, state, local and foreign laws (including common law), rules, regulations, requirements, decisions, judgments, decrees, orders and other legally enforceable requirements relating to pollution or the protection of human health or safety, the environment, natural resources, hazardous or toxic substances or wastes, pollutants or contaminants (collectively, "Environmental Laws"); (y) have received and are in compliance with all, and have not violated any, permits, licenses, certificates or other authorizations or approvals required of them under any Environmental Laws to conduct their respective businesses; and (z) have not received written notice of any actual or potential liability or obligation under or relating to, or any actual or potential violation of, applicable Environmental Laws, including for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, and have no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company or its subsidiaries, except in the case of each of (i) and (ii) above, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iii) (x) there is no proceeding that is pending, or that is known to be contemplated, against the Company or any of its subsidiaries under any

Environmental Laws in which a governmental entity is also a party, other than such proceeding regarding which the Company reasonably believes no monetary sanctions of $100,000 or more will be imposed, (y) the Company and its subsidiaries are not aware of any facts or issues regarding compliance with Environmental Laws, or liabilities or other obligations under Environmental Laws or concerning hazardous or toxic substances or wastes, pollutants or contaminants, that could reasonably be expected to have a Material Adverse Effect, and (z) none of the Company or its subsidiaries anticipates material capital expenditures relating to any Environmental Laws.

(kk) *Compliance with ERISA.* (i) Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), for which the Company or any member of its "Controlled Group" (defined as any entity, whether or not incorporated, that is under common control with the Company within the meaning of Section 4001(a)(14) of ERISA or any entity that would be regarded as a single employer with the Company under Section 414(b),(c),(m) or (o) of the Code) would have any liability (each, a "Plan") has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code; (ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan, excluding transactions effected pursuant to a statutory or administrative exemption; (iii) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no Plan has failed (whether or not waived), or is reasonably expected to fail, to satisfy the minimum funding standards (within the meaning of Section 302 of ERISA or Section 412 of the Code) applicable to such Plan; (iv) no Plan is, or is reasonably expected to be, in "at risk status" (within the meaning of Section 303(i) of ERISA) and no Plan that is a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA is in "endangered status" or "critical status" (within the meaning of Sections 304 and 305 of ERISA) (v) the fair market value of the assets of each Plan exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan); (vi) no "reportable event" (within the meaning of Section 4043(c) of ERISA and the regulations promulgated thereunder) has occurred or is reasonably expected to occur; (vii) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified, and nothing has occurred, to the knowledge of the Company, whether by action or by failure to act, which would cause the loss of such qualification; (viii) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guarantee Corporation, in the ordinary course and without default) in respect of a Plan (including a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA); and (ix) none of the following events has occurred or is reasonably likely to occur: (A) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its Controlled Group affiliates in the current fiscal year of the Company and its Controlled Group affiliates compared to the amount of such contributions made in the Company's and its Controlled Group affiliates' most recently completed fiscal year; or (B) a material increase in the Company and its subsidiaries' "accumulated post-retirement benefit obligations" (within the meaning of Accounting Standards Codification Topic 715-60) compared to the amount of such obligations in the Company and its subsidiaries' most recently completed fiscal year, except in each case with respect to the events or conditions set forth in (i) through (ix) hereof, as would not, individually or in the aggregate, have a Material Adverse Effect.

(ll) *Disclosure Controls*. To the extent required under applicable rules, the Company and its subsidiaries maintain an effective system of "disclosure controls and procedures" (as defined in Rule 13a-15(e) of the Exchange Act) that complies with the requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company's management as appropriate to allow timely decisions regarding required disclosure.

(mm) *Accounting Controls.* The Company and its subsidiaries maintain systems of "internal control over financial reporting" (as defined in Rule 13a-15(f) of the Exchange Act) that are reasonably designed to comply with the applicable requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. The Company and its subsidiaries maintain internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. There are no material weaknesses in the Company's internal controls. The Company's auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which have adversely affected or are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and (ii) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls over financial reporting.

(nn) *Insurance.* The Company and its subsidiaries have insurance covering their respective properties, operations, personnel and businesses, including business interruption insurance, which insurance is in amounts and insures against such losses and risks as the Company reasonably believes are adequate to protect the Company and its subsidiaries and their respective businesses; and neither the Company nor any of its subsidiaries has (i) received notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage at reasonable cost from similar insurers as may be necessary to continue its business.

(oo) *No Unlawful Payments.* Neither the Company nor any of its subsidiaries nor any director, officer or employee of the Company or any of its subsidiaries nor, to the knowledge of the Company, any agent, affiliate or other person acting on behalf of the Company or any of its subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made or taken an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment or unlawful benefit to any foreign or domestic government or regulatory official or employee, including of any government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom, or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit. Neither the Company nor any of its subsidiaries will use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-bribery or anti-corruption laws. The Company and its subsidiaries have instituted, maintain and enforce, and will continue to maintain and enforce policies and procedures reasonably designed to promote and ensure compliance with all applicable anti-bribery and anti-corruption laws.

(pp) *Compliance with Anti-Money Laundering Laws*. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable money laundering statutes of all jurisdictions where the Company or any of its subsidiaries conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental or regulatory agency (collectively, the "Anti-Money Laundering Laws") and no action, suit or proceeding by or before any court or governmental or regulatory agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(qq) *No Conflicts with Sanctions Laws.* Neither the Company nor any of its subsidiaries, directors, officers or employees, nor, to the knowledge of the Company, any agent, affiliate or other person associated with or acting on behalf of the Company or any of its subsidiaries is currently the subject or the target of any economic, financial or trade sanctions administered or enforced by the U.S. government, (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council, the European Union, His Majesty's Treasury, the Swiss Secretariat of Economic Affairs, or other relevant sanctions authority (collectively, "Sanctions"), nor is the Company or any of its subsidiaries, directors, officers, or employees, or, to the knowledge of the Company, any agent, affiliate or other person associated with or acting on behalf of the Company or any of its subsidiaries is located, organized or resident in a country or territory that is the subject or target of Sanctions, including, without limitation, the Crimea Region of Ukraine, the so-called Donetsk People's Republic, the so-called Luhansk People's Republic and the non-government controlled areas of the Zaporizhzhia and Kherson Regions, Cuba, Iran, North Korea and Syria (each, a "Sanctioned Country"); and the Company will not directly or knowingly indirectly use the proceeds of the offering of the Shares hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. The Company and its subsidiaries have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(rr) *No Restrictions on Subsidiaries*. No subsidiary of the Company is currently prohibited, directly or indirectly, under any agreement or other instrument to which it is a party or is subject, from paying any dividends to the Company, from making any other distribution on such subsidiary's capital stock or similar ownership interest, from repaying to the Company any loans or advances to such subsidiary from the Company or from transferring any of such subsidiary's properties or assets to the Company or any other subsidiary of the Company.

(ss) *No Broker's Fees.* Neither the Company nor any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against any of them or any Underwriter for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Shares.

(tt) *No Registration Rights*. No person has the right to require the Company or any of its subsidiaries to register any securities for sale under the Securities Act by reason of the filing of the Registration Statement with the Commission or the issuance and sale of the Shares, except for such rights as have been duly waived.

(uu) *No Stabilization.* Neither the Company nor any of its subsidiaries or, to the Company's knowledge, other affiliates have taken, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Shares.

(vv) *Margin Rules*. Neither the issuance, sale and delivery of the Shares nor the application of the proceeds thereof by the Company as described in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus will violate Regulation T, U or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

(ww) *Forward-Looking Statements.* No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in the Registration Statement, the Pricing Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(xx) *Statistical and Market Data.* Nothing has come to the attention of the Company that has caused the Company to believe that the statistical and market-related data included in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus is not based on or derived from sources that are reliable and accurate in all material respects.

(yy) *Sarbanes-Oxley Act*. There is and has been no failure on the part of the Company or any of the Company's directors or officers, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated in connection therewith (the "Sarbanes-Oxley Act"), including Section 402 related to loans and Sections 302 and 906 related to certifications.

(zz) *Status under the Securities Act*. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or any offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) under the Securities Act) of the Shares and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405 under the Securities Act. The Company has paid the registration fee for this offering pursuant to Rule 456(b)(1) under the Securities Act or will pay such fee within the time period required by such rule (without giving effect to the proviso therein) and in any event prior to the Closing Date.

(aaa) *No Ratings*. There are (and prior to the Closing Date, will be) no debt securities, convertible securities or preferred stock issued or guaranteed by the Company or any of its subsidiaries that are rated by a "nationally recognized statistical rating organization", as such term is defined in Section 3(a)(62) under the Exchange Act.

4. <u>Further Agreements of the Company</u>. The Company covenants and agrees with each Underwriter that:

(a) *Required Filings.* The Company will file the final Prospectus with the Commission within the time periods specified by Rule 424(b) and Rule 430A, 430B or 430C under the Securities Act, will file any Issuer Free Writing Prospectus to the extent required by Rule 433 under the Securities Act; and the Company will furnish copies of the Prospectus and each Issuer Free Writing Prospectus (to the extent not previously delivered) to the Underwriters in New York City prior to 10:00 A.M., New York City time, on the business day next succeeding the date of this Agreement in such quantities as the Representatives may reasonably request.

(b) *Delivery of Copies.* The Company will deliver, without charge, (i) to the Representatives, upon request of the representatives, two signed copies of the Registration Statement as originally filed and each amendment thereto, in each case including all exhibits and consents filed therewith; and (ii) to each Underwriter, upon request by such Underwriter (A) a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) and (B) during the Prospectus Delivery Period (as defined below), as many copies of the Prospectus (including all amendments and supplements thereto and each Issuer Free Writing Prospectus) as the Representatives may reasonably request. As used herein, the term "Prospectus Delivery Period" means such period of time after the first date of the public offering of the Shares as in the opinion of counsel for the Underwriters a prospectus relating to the Shares is required by law to be delivered (or required to be delivered but for Rule 172 under the Securities Act) in connection with sales of the Shares by any Underwriter or dealer.

(c) *Amendments or Supplements, Issuer Free Writing Prospectuses.* Before making, preparing, using, authorizing, approving, referring to or filing any Issuer Free Writing Prospectus, and before filing any amendment or supplement to the Registration Statement, the Pricing Disclosure Package or the Prospectus, the Company will furnish to the Representatives and counsel for the Underwriters a copy of the proposed Issuer Free Writing Prospectus, amendment or supplement for review and will not make, prepare, use, authorize, approve, refer to or file any such Issuer Free Writing Prospectus or file any such proposed amendment or supplement to which the Representatives reasonably object.

(d) *Notice to the Representatives.* The Company will advise the Representatives promptly, and confirm such advice in writing (which may be by electronic mail), (i) when the Registration Statement has become effective; (ii) when any amendment to the Registration Statement has been filed or becomes effective; (iii) when any supplement to the Pricing Disclosure Package, the Prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication or any amendment to the Prospectus has been filed or distributed; (iv) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or the receipt of any comments from the Commission relating to the Registration Statement or any other request by the Commission for any additional information including, but not limited to, any request for information concerning any Testing-the-Waters Communication; (v) of the issuance by the Commission or any other governmental or regulatory authority of any order suspending the effectiveness of the Registration Statement or preventing or suspending the use of any Preliminary Prospectus, any of the Pricing Disclosure Package, the Prospectus or any Written Testing-the-Waters Communication or the initiation or, to the knowledge of the company, threatening of any proceeding for that purpose or pursuant to Section 8A of the Securities Act; (vi) of the occurrence of any event or development within the Prospectus Delivery Period as a result of which the Prospectus, any of the Pricing Disclosure Package or any Issuer Free Writing Prospectus or any Written Testing-the-Waters Communication as then amended or supplemented would include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Prospectus, the Pricing Disclosure Package, or any such Issuer Free Writing Prospectus or any Written Testing-the-Waters Communication is delivered to a purchaser, not misleading; and (vii) of the receipt by the Company of any notice with respect to any suspension of the qualification of the Shares for offer and sale in any jurisdiction or the initiation or, to the knowledge of the company, threatening of any proceeding for such purpose; and the Company will use its reasonable best efforts to prevent the issuance of any such order suspending the effectiveness of the Registration Statement, preventing or suspending the use of any Preliminary Prospectus, any of the Pricing Disclosure Package or the Prospectus or any Written Testing-the-Waters Communication or suspending any such qualification of the Shares and, if any such order is issued, will use its reasonable best efforts to obtain as soon as possible the withdrawal thereof.

(e) *Ongoing Compliance.* (1) If during the Prospectus Delivery Period (i) any event or development shall occur or condition shall exist as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Prospectus is delivered to a purchaser, not misleading or (ii) it is necessary to amend or supplement the Prospectus to comply with applicable law, the Company will promptly notify the Underwriters thereof and forthwith prepare and, subject to paragraph (c) above, file with the Commission and furnish to the Underwriters and to such dealers as the Representatives may designate such amendments or supplements to the Prospectus as may be necessary so that the statements in the Prospectus as so amended or supplemented will not, in the light of the circumstances existing when the Prospectus is delivered to a purchaser, be misleading or so that the Prospectus will comply with applicable law and (2) if at any time prior to the Closing Date (i) any event or development shall occur or condition shall exist as a result of which the Pricing Disclosure Package as then amended or supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Pricing Disclosure Package is delivered to a purchaser, not misleading or (ii) it is necessary to amend or supplement the Pricing Disclosure Package to comply with applicable law, the Company will promptly notify the Underwriters thereof and forthwith prepare and, subject to paragraph (c) above, file with the Commission (to the extent required) and furnish to the Underwriters and to such dealers as the Representatives may designate such amendments or supplements to the Pricing Disclosure Package as may be necessary so that the statements in the Pricing Disclosure Package as so amended or supplemented will not, in the light of the circumstances existing when the Pricing Disclosure Package is delivered to a purchaser, be misleading or so that the Pricing Disclosure Package will comply with applicable law.

(f) *Blue Sky Compliance.* The Company will qualify the Shares for offer and sale under the securities or Blue Sky laws of such jurisdictions as the Representatives shall reasonably request and will continue such qualifications in effect so long as required for distribution of the Shares; provided that the Company shall not be required to (i) qualify as a foreign corporation or other entity or as a dealer in securities in any such jurisdiction where it would not otherwise be required to so qualify, (ii) file any general consent to service of process in any such jurisdiction or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(g) *Earning Statement.* The Company will make generally available to its security holders and the Representatives as soon as practicable an earning statement that satisfies the provisions of Section 11(a) of the Securities Act and Rule 158 of the Commission promulgated thereunder covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the "effective date" (as defined in Rule 158) of the Registration Statement; provided that the Company will be deemed to have furnished such statements to its security holders and the Representatives to the extent they are filed on the Commission's Electronic Data Gathering, Analysis and Retrieval system ("EDGAR").

(h) *Clear Market.* For a period of 180 days after the date of the Prospectus (the "Restricted Period"), the Company will not (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 Commission a registration statement under the Securities Act relating to, any shares of Stock or any securities convertible into or exercisable or exchangeable for 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 the Stock or any such other securities, or publicly disclose the intention to undertake any of the foregoing in clause (i) or (ii), whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Stock or such other securities, in cash or otherwise, without the prior written consent of the Representatives, other than the Shares to be sold hereunder.

The restrictions described above do not apply to (i) the issuance of shares of Stock or securities convertible into or exercisable for shares of 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 RSUs (including net settlement), in each case outstanding on the date of this Agreement and described in the Prospectus; (ii) grants of stock options, stock awards, restricted stock, RSUs, or other equity awards and the issuance of shares of Stock or securities convertible into or exercisable or exchangeable for shares of Stock (whether upon the exercise of stock options or otherwise) to the Company's employees, officers, directors, advisors, or consultants pursuant to the terms of an equity compensation plan described in the Prospectus, provided that such recipients enter into a lock-up agreement with the Underwriters; (iii) the issuance of up to 10% of the outstanding shares of Stock, or securities convertible into, exercisable for, or which are otherwise exchangeable for, Stock, immediately following the Closing Date, in acquisitions or other similar strategic transactions, provided that such recipients enter into a lock-up agreement with the Underwriters; (iv) the issuance of shares of Stock to satisfy milestone or other contingent payment obligations under the Company's existing collaboration, license, acquisition or similar agreements as described in the Prospectus; or (v) the filing of any registration statement on Form S-8 relating to securities granted or to be granted pursuant to any plan described in the Prospectus or any assumed benefit plan pursuant to an acquisition or similar strategic transaction.

(i) If the Representatives, in their sole discretion, agree to release or waive the restrictions set forth in a lock-up letter described in Section 6(l) hereof for an officer or director of the Company and provide the Company with notice of the impending release or waiver substantially in the form of Exhibit B hereto at least three business days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver substantially in the form of Exhibit C hereto through a major news service at least two business days before the effective date of the release or waiver.

(j) *Use of Proceeds.* The Company will apply the net proceeds from the sale of the Shares as described in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus under the heading "Use of proceeds".

(k) *No Stabilization.* Neither the Company nor its subsidiaries or affiliates will take, directly or indirectly, without giving effect to activities by the Underwriters, any action designed to or that would reasonably be expected to cause or result in any stabilization or manipulation of the price of the Stock.

(l) *Exchange Listing.* The Company will use its reasonable best efforts to list, subject to notice of issuance, the Shares on the Nasdaq Market.

(m) *Reports.* For a period of three years following the Closing Date, the Company will furnish to the Representatives, as soon as they are available, copies of all reports or other communications (financial or other) furnished to holders of the Shares, and copies of any reports and financial statements furnished to or filed with the Commission or any national securities exchange or automatic quotation system; provided the Company will be deemed to have furnished such reports and financial statements to the Representatives to the extent they are filed on EDGAR.

(n) *Record Retention*. The Company will, pursuant to reasonable procedures developed in good faith, retain copies of each Issuer Free Writing Prospectus that is not filed with the Commission in accordance with Rule 433 under the Securities Act.

(o) *Filings.* The Company will file with the Commission such reports as may be required by Rule 463 under the Securities Act.

(p) *Emerging Growth Company*. The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of Shares within the meaning of the Securities Act and (ii) completion of the Restricted Period.

5. Certain Agreements of the Underwriters. Each Underwriter hereby represents and agrees that:

(a) It has not, and will not use, authorize use of, refer to or participate in the planning for use of, any "free writing prospectus", as defined in Rule 405 under the Securities Act (which term includes use of any written information furnished to the Commission by the Company and not incorporated by reference into the Registration Statement and any press release issued by the Company) other than (i) a free writing prospectus that contains no "issuer information" (as defined in Rule 433(h)(2) under the Securities Act) that was not included in the Preliminary Prospectus or a previously filed Issuer Free Writing Prospectus, (ii) any Issuer Free Writing Prospectus listed on Annex A or prepared pursuant to Section 3(c) or Section 4(c) above (including any electronic road show approved by the Company in advance in writing), or (iii) any free writing prospectus prepared by such underwriter and approved by the Company in advance in writing (each such free writing prospectus referred to in clauses (i) or (iii), an "Underwriter Free Writing Prospectus").

(b) It has not and will not, without the prior written consent of the Company, use any free writing prospectus that contains the final terms of the Shares unless such terms have previously been included in a free writing prospectus filed with the Commission; *provided* that Underwriters may use a term sheet substantially in the form of Annex C hereto without the consent of the Company; *provided further* that any Underwriter using such term sheet shall notify the Company, and provide a copy of such term sheet to the Company, prior to, or substantially concurrently with, the first use of such term sheet.

(c) It is not subject to any pending proceeding under Section 8A of the Securities Act with respect to the offering (and will promptly notify the Company if any such proceeding against it is initiated during the Prospectus Delivery Period).

6. Conditions of Underwriters' Obligations. The obligation of each Underwriter to purchase the Underwritten Shares on the Closing Date or the Option Shares on the Additional Closing Date, as the case may be, as provided herein is subject to the performance by the Company of its covenants and other obligations hereunder and to the following additional conditions:

(a) *Registration Compliance; No Stop Order.* No order suspending the effectiveness of the Registration Statement shall be in effect, and no proceeding for such purpose or pursuant to Section 8A under the Securities Act shall be pending before or threatened by the Commission; the Prospectus and each Issuer Free Writing Prospectus shall have been timely filed with the Commission under the Securities Act (in the case of an Issuer Free Writing Prospectus, to the extent required by Rule 433 under the Securities Act) and in accordance with Section 4(a) hereof; and all requests by the Commission for additional information shall have been complied with to the reasonable satisfaction of the Representatives.

(b) *Representations and Warranties.* The representations and warranties of the Company contained herein shall be true and correct on the date hereof and on and as of the Closing Date or the Additional Closing Date, as the case may be; and the statements of the Company and its officers made in any certificates delivered pursuant to this Agreement shall be true and correct on and as of the Closing Date or the Additional Closing Date, as the case may be.

(c) *No Material Adverse Change.* No event or condition of a type described in Section 3(h) hereof shall have occurred or shall exist, which event or condition is not described in the Pricing Disclosure Package (excluding any amendment or supplement thereto) and the Prospectus (excluding any amendment or supplement thereto) and the effect of which in the judgment of the Representatives makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Shares on the Closing Date or the Additional Closing Date, as the case may be, on the terms and in the manner contemplated by this Agreement, the Pricing Disclosure Package and the Prospectus.

(d) *Officer's Certificate.* The Representatives shall have received on and as of the Closing Date or the Additional Closing Date, as the case may be, a certificate of the chief financial officer or chief accounting officer of the Company and one additional senior executive officer of the Company who is reasonably satisfactory to the Representatives, on behalf of the Company and not in their individual capacities, (i) confirming that such officers have carefully reviewed the Registration Statement, the Pricing Disclosure Package and the Prospectus and, to the knowledge of such officers, the representations set forth in Sections 3(b) and 3(f) hereof are true and correct, (ii) confirming that the other representations and warranties of the Company in this Agreement are true and correct and that the Company has complied in all material respects with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date or the Additional Closing Date, as the case may be, and (iii) to the effect set forth in paragraphs (a), (b) and (c) above.

(e) *Comfort Letters*. On the date of this Agreement and on the Closing Date or the Additional Closing Date, as the case may be, Ernst & Young LLP shall have furnished to the Representatives, at the request of the Company, letters, dated the respective dates of delivery thereof and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives, containing statements and information of the type customarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus; provided, that the letter delivered on the Closing Date or the Additional Closing Date, as the case may be, shall use a "cut-off" date no more than three business days prior to such Closing Date or such Additional Closing Date, as the case may be.

(f) *Opinion and 10b-5 Statement of Counsel for the Company.* Latham & Watkins LLP counsel for the Company, shall have furnished to the Representatives, at the request of the Company, their written opinion and 10b-5 statement, dated the Closing Date or the Additional Closing Date, as the case may be, and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives.

(g) *Opinion of Intellectual Property Counsels for the Company*. Each of Nixon Peabody LLP and Seed IP Law Group LLP, intellectual property counsels for the Company, shall have furnished to the Representatives, at the request of the Company, their written opinion, dated the Closing Date or the Additional Closing Date, as the case may be, and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives.

(h) *Opinion and 10b-5 Statement of Counsel for the Underwriters.* The Representatives shall have received on and as of the Closing Date or the Additional Closing Date, as the case may be, an opinion and 10b-5 statement, addressed to the Underwriters, of Cooley LLP, counsel for the Underwriters, with respect to such matters as the Representatives may reasonably request, and such counsel shall have received such documents and information as they may reasonably request to enable them to pass upon such matters.

(i) *No Legal Impediment to Issuance and Sale.* No action shall have been taken and no statute, rule, regulation or order shall have been enacted, adopted or issued by any federal, state or foreign governmental or regulatory authority that would, as of the Closing Date or the Additional Closing Date, as the case may be, prevent the issuance or sale of the Shares; and no injunction or order of any federal, state or foreign court shall have been issued that would, as of the Closing Date or the Additional Closing Date, as the case may be, prevent the issuance or sale of the Shares.

(j) *Good Standing.* The Representatives shall have received on and as of the Closing Date or the Additional Closing Date, as the case may be, satisfactory evidence of the good standing of the Company and its significant subsidiaries in their respective jurisdictions of organization and their good standing in such other jurisdictions as the Representatives may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdictions.

(k) *Exchange Listing.* The Shares to be delivered on the Closing Date or the Additional Closing Date, as the case may be, shall have been approved for listing on the Nasdaq Market, subject to official notice of issuance.

(l) *Lock-up Agreements*. The "lock-up" agreements, each substantially in the form of Exhibit A hereto, between you and the officers, directors and substantially all of the securityholders of the Company, officers and directors of the Company relating to sales and certain other dispositions of shares of Stock or certain other securities, delivered to you on or before the date hereof, shall be full force and effect on the Closing Date or the Additional Closing Date, as the case may be.

(m) *Certification Regarding Beneficial Owners.* The Company will deliver to each Underwriter (or its agent), on the date of execution of this Agreement, a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, together with copies of identifying documentation, and the Company undertakes to provide such additional supporting documentation as each Underwriter may reasonably request in connection with the verification of the foregoing Certification.

(n) *Additional Documents.* On or prior to the Closing Date or the Additional Closing Date, as the case may be, the Company shall have furnished to the Representatives such further certificates and documents as the Representatives may reasonably request.

All opinions, letters, certificates and evidence mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Underwriters.

7. Indemnification and Contribution.

(a) *Indemnification of the Underwriters.* The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors and officers and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against any and all losses, claims, damages and liabilities (including, without limitation, reasonable and documented legal fees and other reasonable and documented expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred), joint or several, that arise out of, or are based upon, (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, not misleading, or (ii) any untrue statement or alleged untrue statement of a material fact contained in the Prospectus (or any amendment or supplement thereto), any Preliminary Prospectus, any Issuer Free Writing Prospectus, any "issuer information" filed or required to be filed pursuant to Rule 433(d) under the Securities Act, any Written Testing-the-Waters Communication prepared or authorized by the Company, any road show as defined in Rule 433(h) under the Securities Act (a "road show") or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), or caused by any omission or alleged omission to state therein a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, in each case except insofar as such losses, claims, damages or liabilities arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in paragraph (b) below.

(b) *Indemnification of the Company.* Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act to the same extent as the indemnity set forth in paragraph (a) above, but only with respect to any losses, claims, damages or liabilities that arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to such Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement, the Prospectus (or any amendment or supplement thereto), any Preliminary Prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, any road show or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), it being understood and agreed upon that the only such information furnished by any Underwriter consists of the following information in the Prospectus furnished on behalf of each Underwriter: the concession and reallowance figures appearing in the third paragraph under the caption "Underwriting" and the information contained in the sixteenth and seventeenth paragraphs under the caption "Underwriting."

(c) *Notice and Procedures.* If any suit, action, proceeding (including any governmental or regulatory investigation), claim or demand shall be brought or asserted against any person in respect of which indemnification may be sought pursuant to the preceding paragraphs of this Section 7, such person (the "Indemnified Person") shall promptly notify the person against whom such indemnification may be sought (the "Indemnifying Person") in writing; provided that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have under the preceding paragraphs of this Section 7 except to the extent that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided, further, that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have to an Indemnified Person otherwise than under the preceding paragraphs of this Section 7. If any such proceeding shall be brought or asserted against an Indemnified Person and it shall have notified the Indemnifying Person thereof, the Indemnifying Person shall retain counsel reasonably satisfactory to the Indemnified Person (who shall not, without the consent of the Indemnified Person, be counsel to the Indemnifying Person) to represent the Indemnified Person and any others entitled to indemnification pursuant to this Section that the Indemnifying Person may designate in such proceeding and shall pay the reasonable and documented fees and expenses in such proceeding and shall pay the reasonable and documented fees and expenses of such counsel related to such proceeding, as incurred. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such Indemnified Person unless (i) the Indemnifying Person and the Indemnified Person shall have mutually agreed to the contrary; (ii) the Indemnifying Person has failed within a reasonable time to retain counsel reasonably satisfactory to the Indemnified Person; (iii) the Indemnified Person shall have reasonably concluded that there may be legal defenses available to it that are different from or in addition to those available to the

Indemnifying Person; or (iv) the named parties in any such proceeding (including any impleaded parties) include both the Indemnifying Person and the Indemnified Person and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them. It is understood and agreed that the Indemnifying Person shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the fees and expenses of more than one separate firm (in addition to any local counsel) for all Indemnified Persons, and that all such reasonable and documented fees and expenses shall be paid or reimbursed as they are incurred. Any such separate firm for any Underwriter, its affiliates, directors and officers and any control persons of such Underwriter shall be designated in writing by the Representatives and any such separate firm for the Company, its directors, its officers who signed the Registration Statement and any control persons of the Company shall be designated in writing by the Company. The Indemnifying Person shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent, the Indemnifying Person agrees to indemnify each Indemnified Person from and against any loss or liability by reason of such settlement. Notwithstanding the foregoing sentence, if at any time an Indemnified Person shall have requested that an Indemnifying Person reimburse the Indemnified Person for fees and expenses of counsel as contemplated by this paragraph, the Indemnifying Person shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by the Indemnifying Person of such request and (ii) the Indemnifying Person shall not have reimbursed the Indemnified Person in accordance with such request prior to the date of such settlement. No Indemnifying Person shall, without the written consent of the Indemnified Person, effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnification could have been sought hereunder by such Indemnified Person, unless such settlement (x) includes an unconditional release of such Indemnified Person, in form and substance reasonably satisfactory to such Indemnified Person, from all liability on claims that are the subject matter of such proceeding and (y) does not include any statement as to or any admission of fault, culpability or a failure to act by or on behalf of any Indemnified Person.

(d) *Contribution.* If the indemnification provided for in paragraphs (a) or (b) above is unavailable to an Indemnified Person or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then each Indemnifying Person under such paragraph, in lieu of indemnifying such Indemnified Person thereunder, shall contribute to the amount paid or payable by such Indemnified Person as a result of such losses, claims, damages or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters on the other, from the offering of the Shares or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) but also the relative fault of the Company, on the one hand, and the Underwriters on the other, in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriters on the other, shall be deemed to be in the same respective proportions as the net proceeds (before deducting expenses) received by the Company from the sale of the Shares and the total underwriting discounts and commissions received by the Underwriters in connection therewith, in each case as set forth in the table on the cover of the Prospectus, bear to the aggregate offering price of the Shares. The relative fault of the Company, on the one hand, and the Underwriters on the other, shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

(e) *Limitation on Liability.* The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to paragraph (d) above were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in paragraph (d) above. The amount paid or payable by an Indemnified Person as a result of the losses, claims, damages and liabilities referred to in paragraph (d) above shall be deemed to include, subject to the limitations set forth above, any reasonable and documented legal or other expenses incurred by such Indemnified Person in connection with any such action or claim. Notwithstanding the provisions of paragraphs (d) and (e), in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Shares exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to paragraphs (d) and (e) are several in proportion to their respective purchase obligations hereunder and not joint.

(f) *Non-Exclusive Remedies.* The remedies provided for in this Section 7 are not exclusive and shall not limit any rights or remedies which may otherwise be available to any Indemnified Person at law or in equity.

8. Effectiveness of Agreement. This Agreement shall become effective as of the date first written above.

9. Termination. This Agreement may be terminated in the absolute discretion of the Representatives, by notice to the Company, if after the execution and delivery of this Agreement and on or prior to the Closing Date or, in the case of the Option Shares, prior to the Additional Closing Date: (i) trading generally shall have been suspended or materially limited on or by any of the New York Stock Exchange or The Nasdaq Stock Market; (ii) trading of any securities issued or guaranteed by the Company shall have been suspended on any exchange or in any over-the-counter market; (iii) a general moratorium on commercial banking activities shall have been declared by federal or New York State authorities; or (iv) there shall have occurred any outbreak or escalation of hostilities or any change in financial markets or any calamity or crisis, either within or outside the United States, that, in the judgment of the Representatives, is material and adverse and makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Shares on the Closing Date or the Additional Closing Date, as the case may be, on the terms and in the manner contemplated by this Agreement, the Pricing Disclosure Package and the Prospectus.

10. Defaulting Underwriter.

(a) If, on the Closing Date or the Additional Closing Date, as the case may be, any Underwriter defaults on its obligation to purchase the Shares that it has agreed to purchase hereunder on such date, the non-defaulting Underwriters may in their discretion arrange for the purchase of such Shares by other persons satisfactory to the Company on the terms contained in this Agreement. If, within 36 hours after any such default by any Underwriter, the non-defaulting Underwriters do not arrange for the purchase of such Shares, then the Company shall be entitled to a further period of 36 hours within which to procure other persons satisfactory to the non-defaulting Underwriters to purchase such Shares on such terms. If other persons become obligated or agree to purchase the Shares of a defaulting Underwriter, either the non-defaulting Underwriters or the Company may postpone the Closing Date or the Additional Closing Date, as the case may be, for up to five full business days in order to effect any changes that in the opinion of counsel for the Company or counsel for the Underwriters may be necessary in the Registration Statement and the Prospectus or in any other document or arrangement, and the Company agrees to promptly prepare any amendment or supplement to the Registration Statement and the Prospectus that effects any such changes. As used in this Agreement, the term "Underwriter" includes, for all purposes of this Agreement unless the context otherwise requires, any person not listed in Schedule 1 hereto that, pursuant to this Section 10, purchases Shares that a defaulting Underwriter agreed but failed to purchase.

(b) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by the non-defaulting Underwriters and the Company as provided in paragraph (a) above, the aggregate number of Shares that remain unpurchased on the Closing Date or the Additional Closing Date, as the case may be, does not exceed one-eleventh of the aggregate number of Shares to be purchased on such date, then the Company shall have the right to require each non-defaulting Underwriter to purchase the number of Shares that such Underwriter agreed to purchase hereunder on such date plus such Underwriter's pro rata share (based on the number of Shares that such Underwriter agreed to purchase on such date) of the Shares of such defaulting Underwriter or Underwriters for which such arrangements have not been made.

(c) If, after giving effect to any arrangements for the purchase of the Shares of a defaulting Underwriter or Underwriters by the non-defaulting Underwriters and the Company as provided in paragraph (a) above, the aggregate number of Shares that remain unpurchased on the Closing Date or the Additional Closing Date, as the case may be, exceeds one-eleventh of the aggregate amount of Shares to be purchased on such date, or if the Company shall not exercise the right described in paragraph (b) above, then this Agreement or, with respect to any Additional Closing Date, the obligation of the Underwriters to purchase Shares on the Additional Closing Date, as the case may be, shall terminate without liability on the part of the non-defaulting Underwriters. Any termination of this Agreement pursuant to this Section 10 shall be without liability on the part of the Company, except that the Company will continue to be liable for the payment of expenses as set forth in Section 11 hereof and except that the provisions of Section 7 hereof shall not terminate and shall remain in effect.

(d) Nothing contained herein shall relieve a defaulting Underwriter of any liability it may have to the Company or any non-defaulting Underwriter for damages caused by its default.

11. Payment of Expenses.

(a) Whether or not the transactions contemplated by this Agreement are consummated or this Agreement is terminated, the Company will pay or cause to be paid all costs and expenses incident to the performance of its obligations hereunder, including without limitation, (i) the costs incident to the authorization, issuance, sale, preparation and delivery of the Shares and any taxes payable in that connection; (ii) the costs incident to the preparation, printing and filing under the Securities Act of the Registration Statement, the Preliminary Prospectus, any Issuer Free Writing Prospectus, any Pricing Disclosure Package and the Prospectus (including all exhibits, amendments and supplements thereto) and the distribution thereof; (iii) the fees and expenses of the Company's counsel and independent accountants; (iv) the fees and expenses incurred in connection with the registration or qualification and determination of eligibility for investment of the Shares under the laws of such jurisdictions as the Representatives may designate and the preparation, printing and distribution of a Blue Sky Memorandum (including the related fees and expenses of counsel for the Underwriters); (v) the cost of preparing stock certificates; (vi) the costs and charges of any transfer agent and any registrar; (vii) all expenses and application fees incurred in connection with any filing with, and clearance of the offering by, FINRA (including the fees and expenses of counsel for the Underwriters); provided, that the aggregate amount payable by the Company pursuant to clauses (iv) and (vii) shall not exceed $40,000 (excluding filing fees); and (viii) all expenses incurred by the Company in connection with any "road show" presentation to potential investors; (ix) all expenses and application fees related to the listing of the Shares on the Nasdaq Market.

(b) If (i) this Agreement is terminated pursuant to Section 9, (ii) the Company for any reason fails to tender the Shares for delivery to the Underwriters or (iii) the Underwriters decline to purchase the Shares for any reason permitted under this Agreement, the Company agrees to reimburse the Underwriters for all reasonable and documented out-of-pocket costs and expenses (including the reasonable and documented fees and expenses of their counsel) incurred by the Underwriters in connection with this Agreement and the offering contemplated hereby. For the avoidance of doubt, the Company will not be required to pay or reimburse any costs, fees or expenses incurred by any Underwriter that defaults on its obligations to purchase the Shares, as described in Section 10 hereof.

12. Persons Entitled to Benefit of Agreement. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and the officers and directors and any controlling persons referred to herein, and the affiliates of each Underwriter referred to in Section 7 hereof. Nothing in this Agreement is intended or shall be construed to give any other person any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision contained herein. No purchaser of Shares from any Underwriter shall be deemed to be a successor merely by reason of such purchase.

13. Survival. The respective indemnities, rights of contribution, representations, warranties and agreements of the Company and the Underwriters contained in this Agreement or made by or on behalf of the Company or the Underwriters pursuant to this Agreement or any certificate delivered pursuant hereto shall survive the delivery of and payment for the Shares and shall remain in full force and effect, regardless of any termination of this Agreement or any investigation made by or on behalf of the Company or the Underwriters or the directors, officers, controlling persons or affiliates referred to in Section 7 hereof.

14. Certain Defined Terms. For purposes of this Agreement, (a) except where otherwise expressly provided, the term “affiliate” has the meaning set forth in Rule 405 under the Securities Act; (b) the term “business day” means any day other than a day on which banks are permitted or required to be closed in New York City; (c) the term “subsidiary” has the meaning set forth in Rule 405 under the Securities Act; and (d) the term “significant subsidiary” has the meaning set forth in Rule 1-02 of Regulation S-X under the Exchange Act. In the event that the Company has no subsidiaries, or only one subsidiary, then all references herein to “subsidiaries” of the Company shall be deemed to refer to no subsidiary, or such single subsidiary, mutatis mutandis.

15. Compliance with USA Patriot Act. In accordance with the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)), the Underwriters are required to obtain, verify and record information that identifies their respective clients, including the Company, which information may include the name and address of their respective clients, as well as other information that will allow the Underwriters to properly identify their respective clients.

16. Miscellaneous.

(a) *Notices.* All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted and confirmed by any standard form of telecommunication. Notices to the Underwriters shall be given to the Representatives c/o J.P. Morgan Securities LLC, 383 Madison Avenue, New York, New York 10179 (fax: (212) 622-8358), Attention: Equity Syndicate Desk; and c/o BofA Securities, Inc., One Bryant Park, New York, New York 10036, Facsimile: (646) 855 3073, Attention: Syndicate Department (email: [***]) with a copy to ECM Legal (email: [***]). Notices to the Company shall be given to it at Neumora Therapeutics, Inc., 490 Arsenal Way, Suite 200, Watertown, Massachusetts 02472; Attention: Chief Financial Officer.

(b) *Governing Law.* This Agreement and any claim, controversy or dispute arising under or related to this Agreement shall be governed by and construed in accordance with the laws of the State of New York.

(c) *Submission to Jurisdiction*. The Company hereby submits to the exclusive jurisdiction of the U.S. federal and New York state courts in the Borough of Manhattan in The City of New York in any suit or proceeding arising out of or relating to this Agreement or the transactions contemplated hereby. The Company waives any objection which it may now or hereafter have to the laying of venue of any such suit or proceeding in such courts. The Company agrees that final judgment in any such suit, action or proceeding brought in such court shall be conclusive and binding upon the Company and may be enforced in any court to the jurisdiction of which Company is subject by a suit upon such judgment.

(d) *Waiver of Jury Trial*. Each of the parties hereto hereby waives any right to trial by jury in any suit or proceeding arising out of or relating to this Agreement.

(e) *Recognition of the U.S. Special Resolution Regimes*.

(i) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(ii) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 16(e):

"BHC Act Affiliate" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k).

"Covered Entity" means any of the following:

(i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b);

(ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or

(iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

"Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

"U.S. Special Resolution Regime" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

(f) *Counterparts.* This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement. Electronic signatures complying with the New York Electronic Signatures and

Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law will be deemed original signatures for purposes of this Agreement. Transmission by telecopy, electronic mail or other transmission method of an executed counterpart of this Agreement will constitute due and sufficient delivery of such counterpart.

(g) *Amendments or Waivers.* No amendment or waiver of any provision of this Agreement, nor any consent or approval to any departure therefrom, shall in any event be effective unless the same shall be in writing and signed by the parties hereto.

(h) *Headings.* The headings herein are included for convenience of reference only and are not intended to be part of, or to affect the meaning or interpretation of, this Agreement.

[Signature Page Follows]

If the foregoing is in accordance with your understanding, please indicate your acceptance of this Agreement by signing in the space provided below.

Very truly yours,

NEUMORA THERAPEUTICS, INC.

By: ______________________________
Name:
Title:

[Signature Page to Underwriting Agreement]

Accepted: As of the date first written above

J.P. MORGAN SECURITIES LLC
BOFA SECURITIES, INC.

For themselves and on behalf of the
several Underwriters listed
in Schedule 1 hereto.

J.P. MORGAN SECURITIES LLC

By: ______________________________
Authorized Signatory

BOFA SECURITIES, INC.

By: ______________________________
Authorized Signatory

[Signature Page to Underwriting Agreement]

SCHEDULE 1

Underwriter	Number of Shares
J.P. Morgan Securities LLC	
BofA Securities, Inc.	
Stifel, Nicolaus & Company, Incorporated	
Guggenheim Securities, LLC	
RBC Capital Markets, LLC	
William Blair & Company, L.L.C.	
Total	

ANNEX A

a. **Pricing Disclosure Package**

[*List each Issuer Free Writing Prospectus to be included in the Pricing Disclosure Package*]

b. **Pricing Information**

Number of Underwritten Shares: [●]

Number of Option Shares: [●]

Public Offering Price: $[●] per Share

[*Set out key information included in script that will be used by Underwriters to confirm sales*]

ANNEX B

Written Testing-the-Waters Communications

- Outreach email from J.P. Morgan Securities LLC to certain qualified institutional buyers and/or institutional accredited investors on July 18, 2023
- Neumora - Testing-the-Waters Presentation

<u>ANNEX C</u>

Neumora Therapeutics, Inc.
Pricing Term Sheet

None.

EXHIBIT A

Form of Lock-Up Agreement

[●], 2023

J.P. MORGAN SECURITIES LLC
BOFA SECURITIES, INC.

As Representatives of
the several Underwriters listed in
Schedule 1 to the Underwriting
Agreement referred to below

c/o J.P. Morgan Securities LLC
383 Madison Avenue
New York, NY 10179

c/o BofA Securities, Inc.
One Bryant Park
New York, NY 10036

Re: Neumora Therapeutics, Inc. — Initial Public Offering

Ladies and Gentlemen:

The undersigned understands that you, as Representatives of the several Underwriters, propose to enter into an underwriting agreement (the "Underwriting Agreement") with Neumora Therapeutics, Inc., a Delaware corporation (the "Company"), providing for the initial public offering (the "Public Offering") by the several Underwriters named in Schedule 1 to the Underwriting Agreement (the "Underwriters"), of common stock, par value $0.0001 per share (the "Common Stock"), of the Company (the "Securities"). Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Underwriting Agreement.

In consideration of the Underwriters' agreement to purchase and make the Public Offering of the Securities, and for other good and valuable consideration receipt of which is hereby acknowledged, the undersigned hereby agrees that, without the prior written consent of the Representatives on behalf of the Underwriters, the undersigned will not, and will not cause any direct or indirect affiliate to, during the period beginning on the date of this letter agreement (this "Letter Agreement") and ending at the close of business 180 days after the date of the final prospectus relating to the Public Offering (the "Prospectus") (such period, the "Restricted Period"), (1) 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 Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (including without limitation, Common Stock or such other securities which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the Securities and Exchange Commission and securities which may be issued upon exercise of a stock option or warrant) (collectively with the Common Stock, the "Lock-Up Securities"), (2) 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 (1) or (2) above is to be settled by delivery of Lock-Up Securities, in cash or otherwise, (3) make any demand for or exercise any right with respect to the registration of any Lock-Up Securities, or (4) publicly disclose the intention to do any of the foregoing. The undersigned acknowledges and agrees that the foregoing precludes the undersigned 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 undersigned 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. The undersigned further confirms that it has furnished the Representatives with the details of any transaction the undersigned, or any of its affiliates, is a party to as of the date hereof, which transaction would have been restricted by this Letter Agreement if it had been entered into by the undersigned during the Restricted Period.

Notwithstanding the foregoing, the undersigned may:

(a) transfer, distribute, cause the disposition of or surrender (as the case may be), the undersigned’s Lock-Up Securities:

(i) as a bona fide gift or gifts, or for bona fide estate planning purposes,

(ii) by will, testamentary document or intestacy,

(iii) (1) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, or if the undersigned is a trust, to a trustor or beneficiary of the trust or to the estate of a beneficiary of such trust (for purposes of this Letter Agreement, “immediate family” shall mean any relationship by blood, current or former marriage, domestic partnership or adoption, not more remote than first cousin) or (2) to any immediate family member,

(iv) to a corporation, partnership, limited liability company or other entity of which the undersigned and the immediate family of the undersigned are the legal and beneficial owner of all of the outstanding equity securities or similar interests,

(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) if the undersigned is 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 (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) of the undersigned, or to any investment fund or other entity controlling, controlled by, managing or managed by or under common control with the undersigned or affiliates of the undersigned (including, for the avoidance of doubt, where the undersigned is a partnership, to its general partner or a successor partnership or fund, or any other funds managed by such partnership), or (B) as part of a distribution to partners, members or shareholders of the undersigned,

(vii) by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce decree or separation agreement,

(viii) to the Company from an employee of the Company upon death, disability or termination of employment, in each case, of such employee,

(ix) as part of a sale of the undersigned's Lock-Up Securities acquired (A) in open market transactions after the closing date for the Public Offering or (B) from the Underwriters in the Public Offering,

(x) to the Company in connection with the vesting, settlement, or exercise of restricted stock units, options, warrants or other rights to purchase shares of Common Stock (including, in each case, by way of "net" or "cashless" exercise), including for the payment of exercise price and tax and remittance payments due as a result of the vesting, settlement, or exercise of such restricted stock units, options, warrants or rights, provided that any such shares of Common Stock received upon such exercise, vesting or settlement shall be subject to the terms of this Letter Agreement, and provided further that any such restricted stock units, options, warrants or rights are held by the undersigned pursuant to an agreement or equity awards granted under a stock incentive plan or other equity award plan, each such agreement or plan which is described in the Registration Statement, the Pricing Disclosure Package and the Prospectus; or

(xi) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction that is approved by the Board of Directors of the Company and made to all holders of the Company's capital stock involving a Change of Control (as defined below) of the Company (for purposes hereof, "Change of Control" shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons, of shares of capital stock if, after such transfer, such person or group of affiliated persons would hold more than 50% of the outstanding voting securities of the Company (or the surviving entity)); provided that in the event that such tender offer, merger, consolidation or other similar transaction is not completed, the undersigned's Lock-Up Securities shall remain subject to the provisions of this Letter Agreement;

provided that (A) in the case of any transfer or distribution pursuant to clause (a)(i), (ii), (iii), (iv), (v), (vi) and (vii), such transfer shall not involve a disposition for value and each donee, devisee, transferee or distributee shall execute and deliver to the Representatives a lock-up letter in the form of this Letter Agreement, (B) in the case of any transfer or distribution pursuant to clause (a) (i), (ii), (iii), (iv), (v), (vi) and (ix), no filing by any party (donor, donee, devisee, transferor, transferee, distributer or distributee) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 5 made after the expiration of the Restricted Period referred to above or any required filing on Schedule 13) and (C) in the case of any transfer or distribution pursuant to clause (a)(vii), (viii) and (x) it shall be a condition to such transfer that no public filing, report or announcement shall be voluntarily made and if any filing under Section 16(a) of the Exchange Act, or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of Common Stock in connection with such transfer or distribution shall be legally required during the Restricted Period, such filing, report or announcement shall clearly indicate in the footnotes thereto the nature and conditions of such transfer;

(b) exercise outstanding options, settle restricted stock units or other equity awards or exercise warrants pursuant to plans described in the Registration Statement, the Pricing Disclosure Package and the Prospectus; provided that any Lock-Up Securities received upon such exercise, vesting or settlement shall be subject to the terms of this Letter Agreement;

(c) convert outstanding preferred stock, warrants to acquire preferred stock or convertible securities into shares of Common Stock or warrants to acquire shares of Common Stock; provided that any such shares of Common Stock or warrants received upon such conversion shall be subject to the terms of this Letter Agreement;

(d) establish trading plans pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Lock-Up Securities; provided that (1) such trading plans do not provide for the transfer of Lock-Up Securities during the Restricted Period, (2) no filing by any party under the Exchange Act or other public announcement shall be made voluntarily in connection with such trading plan during the Restricted Period and (3) if any filing under the Exchange Act or other public announcement shall be legally required during the Restricted Period, such filing or public announcement shall clearly indicate that no transfers under such trading plans will take place during the Restricted Period.

If the undersigned is not a natural person, the undersigned represents and warrants that no single natural person, entity or "group" (within the meaning of Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) beneficially owns, directly or indirectly, 50% or more of the common equity interests, or 50% or more of the voting power, in the undersigned.

If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing provisions shall be equally applicable to any Company-directed Securities the undersigned may purchase in the Public Offering.

[In the event that, during the Restricted Period, the Representatives release or waive any prohibition set forth in this Letter Agreement on the transfer of shares of Common Stock, or any securities convertible into or exercisable for Common Stock, held by any director, officer or Significant Holder (as defined below), the same percentage of the total number of outstanding shares of Common Stock held by the undersigned on the date of such release or waiver as the percentage of the total number of outstanding shares of Common Stock held by such director, officer or such Significant Holder on the date of such release or waiver that are the subject of such waiver shall be immediately and fully released on the same terms from the applicable prohibition(s) set forth herein. For the purposes of the foregoing, a "Significant Holder" shall mean any person or entity that (together with any investment funds affiliated with such person or entity) beneficially owns 1% or more of the total outstanding shares of Common Stock as of the date of the Underwriting Agreement. Notwithstanding the foregoing, the provisions of this paragraph shall not apply (1) if the release or waiver is effected solely to permit a transfer not involving a disposition for value and the transferee agrees in writing to be bound by the same terms described in this Letter Agreement to the extent and for the duration that such terms remain in effect at the time of transfer, (2) in the case of any secondary underwritten public offering of shares of Common Stock (including a secondary underwritten public offering with a primary component) (an "Underwritten Sale"), provided that the undersigned, to the extent the undersigned has a contractual right to demand or require the registration of the undersigned's Lock-Up Securities or otherwise "piggyback" on a registration statement filed by the Company for the offer and sale of its shares of Common Stock, is offered the opportunity to participate on a basis consistent with such contractual rights in such Underwritten Sale, (3) if the releases or waivers granted for all such waivers or releases by the Representatives in an amount of Common Stock, individually or in the aggregate, less than or equal to $3,000,000, or (4) if the release or waiver is granted to a natural person due to circumstances of an emergency or hardship as determined by the Representatives in their sole judgment. The Representatives shall use commercially reasonable efforts to promptly notify the Company of each such release (provided that the failure to provide such notice shall not give rise to any claim or liability against the Representatives or the Underwriters) and the Company shall use commercially reasonable efforts to promptly notify the undersigned of each such release. The undersigned further acknowledges that the Representatives are under no obligation to inquire into whether, or to ensure that, the Company notifies the undersigned of the delivery by the Representatives of any such notice, which is a matter between the undersigned and the Company.][1]

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1 To be included for stockholders holding 1% or more of the Company's capital stock on a fully diluted basis.

If the undersigned is an officer or director of the Company, (i) the Representatives on behalf of the Underwriters agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of Lock-Up Securities, the Representatives on behalf of the Underwriters will notify the Company of the impending release or waiver, and (ii) the Company has agreed in the Underwriting Agreement to announce the impending release or waiver through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by J the Representatives on behalf of the Underwriters hereunder to any such officer or director shall only be effective two business days after the publication date of such announcement. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer not for consideration or that is to an immediate family member as defined in FINRA Rule 5130(i)(5) and (b) the transferee has agreed in writing to be bound by the same terms described in this Letter Agreement to the extent and for the duration that such terms remain in effect at the time of the transfer.

In furtherance of the foregoing, the Company, and any duly appointed transfer agent for the registration or transfer of the securities described herein, are hereby authorized to decline to make any transfer of securities if such transfer would constitute a violation or breach of this Letter Agreement.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Letter Agreement. All authority herein conferred or agreed to be conferred and any obligations of the undersigned shall be binding upon the successors, assigns, heirs or personal representatives of the undersigned. In the event that any signature is delivered by facsimile transmission, electronic mail or otherwise by electronic transmission evidencing an intent to sign this Letter Agreement, such facsimile transmission, electronic mail or other electronic transmission shall create a valid and binding obligation of the undersigned with the same force and effect as if such signature were an original. Execution and delivery of this Letter Agreement by facsimile transmission, electronic mail or other electronic transmission is legal, valid and binding for all purposes.

The undersigned acknowledges and agrees that the Underwriters have not provided any recommendation or investment advice nor have the Underwriters solicited any action from the undersigned with respect to the Public Offering of the Securities and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate. The undersigned further acknowledges and agrees that, although the Representatives may be required or choose to provide certain Regulation Best Interest and Form CRS disclosures to you in connection with the Public Offering, the Representatives and the other Underwriters are not making a recommendation to you to enter into this Letter Agreement, and nothing set forth in such disclosures is intended to suggest that the Representatives or any Underwriter is making such a recommendation.

The undersigned shall automatically be released from all obligations under this Letter Agreement if: (i), the Underwriting Agreement does not become effective by December 31, 2023 (provided, however, that the undersigned agrees that this Letter Agreement shall be automatically extended by three months if the Company provides written notice to the undersigned that the Company is still pursuing the Public Offering contemplated by the Underwriting Agreement),(ii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold thereunder,(iii) either the Company, on the one hand, or the Representatives, on the other hand, notifies the other in writing that it does not intend to proceed with the Public Offering or (iv) the registration statement filed with the SEC in connection with the Public Offering is withdrawn. The undersigned understands that the Underwriters are entering into the Underwriting Agreement and proceeding with the Public Offering in reliance upon this Letter Agreement.

[Signature page follows]

This Letter Agreement and any claim, controversy or dispute arising under or related to this Letter Agreement shall be governed by and construed in accordance with the laws of the State of New York.

Very truly yours,

____

Name of Security Holder *(Print exact name)*

By: ______________________________________

Signature

If not signing in an individual capacity:

____

Name of Authorized Signatory *(Print)*

____

Title of Authorized Signatory *(Print)*

(indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)

[Signature page to Lock-up Agreement]

<u>EXHIBIT B</u>

Form of Waiver of Lock-up

J.P. MORGAN SECURITIES LLC
BOFA SECURITIES, INC.

Neumora Therapeutics, Inc.
Public Offering of Common Stock

[●], 2023

[Name and Address of
Officer or Director
Requesting Waiver]

Dear Mr./Ms. [Name]:

This letter is being delivered to you in connection with the offering by Neumora Therapeutics, Inc. (the "Company") of shares of common stock, $0.0001par value per share (the "Common Stock"), of the Company and the lock-up letter dated [●], 2023 (the "Lock-up Letter"), executed by you in connection with such offering, and your request for a [waiver] [release] dated [●], 2023, with respect to shares of Common Stock (the "Shares").

J.P. Morgan Securities LLC and BofA Securities, Inc. hereby agree to [waive] [release] the transfer restrictions set forth in the Lock-up Letter, but only with respect to the Shares, effective , 2023; <u>provided</u>, <u>however</u>, that such [waiver] [release] is conditioned on the Company announcing the impending [waiver] [release] by press release through a major news service at least two business days before effectiveness of such [waiver] [release]. This letter will serve as notice to the Company of the impending [waiver] [release].

Except as expressly [waived] [released] hereby, the Lock-up Letter shall remain in full force and effect.

[Signature Page Follows]

Yours very truly,

J.P. MORGAN SECURITIES LLC

By: ______________________________
Name:
Title:

BOFA SECURITIES, INC.

By: ______________________________
Name:
Title:

cc: Company

EXHIBIT C

Form of Press Release

Neumora Therapeutics, Inc.

[Date], 2023

Neumora Therapeutics, Inc. (the "Company") announced today that J.P. Morgan Securities LLC and BofA Securities, the lead book-running managers in the Company's recent public sale of shares of common stock, are [waiving] [releasing] a lock-up restriction with respect to shares of the Company's common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver] [release] will take effect on , 2023, and the shares may be sold on or after such date.

This press release is not an offer for sale of the securities in the United States or in any other jurisdiction where such offer is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended.

EXHIBIT D

[Company Letterhead]

(to be delivered by the Issuer to J.P. Morgan Securities LLC, BofA Securities, Inc., Stifel, Nicolaus & Company, Incorporated, and Guggenheim Securities, LLC in email or letter form)

In reliance on Section 5(d) of the Securities Act of 1933, as amended (the “Act”), Neumora Therapeutics, Inc. (the “Issuer”) hereby authorizes J.P. Morgan Securities LLC (“J.P. Morgan”), BofA Securities, Inc. (“BofAS”), Stifel, Nicolaus & Company, Incorporated (“Stifel”) and Guggenheim Securities, LLC (“Guggenheim”) and their respective affiliates and their respective employees, to engage on behalf of the Issuer in oral and written communications with potential investors that are “qualified institutional buyers”, as defined in Rule 144A under the Act, or institutions that are “accredited investors”, within the meaning of Rule 501(a)(1), (a)(2), (a)(3), (a)(7), (a)(8), (a)(9), (a)(12) or (a)(13) under the Act, to determine whether such investors might have an interest in the Issuer’s contemplated initial public offering (“Testing-the-Waters Communications”). A “Written Testing-the Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Act. Each of J.P. Morgan, BofAS, Stifel and Guggenheim, individually and not jointly, agrees that it shall not distribute any Written Testing-the-Waters Communication that has not been approved by the Issuer.

The Issuer represents as of the date this authorization is delivered that (i) it has not alone engaged in any Testing-the-Waters Communication and (ii) it has not authorized anyone other than J.P. Morgan, BofAS, Stifel and Guggenheim to engage in Testing-the-Water Communications. The Issuer agrees, so long as this authorization is in effect, that it shall notify J.P. Morgan, BofAS, Stifel and Guggenheim if it authorizes any other third party to engage on its behalf in oral or written communications with potential investors. The Issuer also represents that, as of the date hereof, it is an “emerging growth company,” as defined in Section 2(a) of the Act (an “Emerging Growth Company”) and agrees to promptly notify J.P. Morgan, BofAS, Stifel and Guggenheim in writing if the Issuer hereafter ceases to be an Emerging Growth Company while this authorization is in effect. Until the earlier of this authorization being revoked (if the Issuer informs J.P. Morgan, BofAS, Stifel and Guggenheim that it has decided not to proceed with the initial public offering) or the execution of a definitive underwriting agreement for the initial public offering, if at any time following the distribution of any Written Testing-the-Waters Communication there occurs an event or development as a result of which such Written Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in light of the circumstances existing at that subsequent time, not misleading, the Issuer will as soon as practicable notify J.P. Morgan, BofAS, Stifel and Guggenheim will promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

Nothing in this authorization is intended to limit or otherwise affect the ability of J.P. Morgan, BofAS, Stifel and Guggenheim and their respective affiliates and their respective employees, to engage in communications in which they could otherwise lawfully engage in the absence of this authorization, including, without limitation, any written communication containing only one or more of the statements specified under Rule 134(a) under the Act. This authorization shall remain in effect until the Issuer has provided to J.P. Morgan and BofAS a written notice revoking this authorization. All notices as described herein shall be sent by email to the attention of Peter Castoro at J.P. Morgan at [***], Shu Mukherjee at BofAS at [***], Alyssa Smiley at [***], and Justin Hull at [***].

Exhibit 4.2

Neumora

PO Box 43004, Providence RI 02940-3004

MR A SAMPLE
DESIGNATION (IF ANY)
ADD 1
ADD 2
ADD 3
ADD 4

CUSIP/IDENTIFIER			XXXXXX XX X
Holder ID			XXXXXXXXXX
Insurance Value			1,000,000.00
Number of Shares			123456
DTC	12345678		123456789012345
Certificate Numbers	Num/No.	Denom.	Total
1234567890/1234567890	1	1	1
1234567890/1234567890	2	2	2
1234567890/1234567890	3	3	3
1234567890/1234567890	4	4	4
1234567890/1234567890	5	5	5
1234567890/1234567890	6	6	6
Total Transaction			7

ZQ|CERT#|COY|CLS|RGSTRY|ACCT#|TRANSTYPE|RUN#|TRANS#

COMMON STOCK PAR VALUE $.01 **COMMON STOCK**

Certificate Number ZQ00000000

Neumora

Shares ******000000******

NEUMORA THERAPEUTICS, INC.

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE

SEE REVERSE FOR CERTAIN DEFINITIONS

CUSIP XXXXXX XX X

THIS CERTIFIES THAT MR. SAMPLE & MRS. SAMPLE & MR. SAMPLE & MRS. SAMPLE

is the owner of ***ZERO HUNDRED THOUSAND ZERO HUNDRED AND ZERO***

THIS CERTIFICATE IS TRANSFERABLE IN CITIES DESIGNATED BY THE TRANSFER AGENT, AVAILABLE ONLINE AT www.computershare.com

FULLY-PAID AND NON-ASSESSABLE SHARES OF COMMON STOCK OF

Neumora Therapeutics, Inc. (hereinafter called the "Company"), transferable on the books of the Company in person or by duly authorized attorney, upon surrender of this Certificate properly endorsed. This Certificate and the shares represented hereby, are issued and shall be held subject to all of the provisions of the Certificate of Incorporation, as amended, and the By-Laws, as amended, of the Company (copies of which are on file with the Company and with the Transfer Agent), to all of which each holder, by acceptance hereof, assents. This Certificate is not valid unless countersigned and registered by the Transfer Agent and Registrar.

Witness the facsimile seal of the Company and the facsimile signatures of its duly authorized officers.

DATED DD-MMM-YYYY

FACSIMILE SIGNATURE TO COME
President

NEUMORA THERAPEUTICS, INC. CORPORATE SEAL 11/22/2019 DELAWARE

COUNTERSIGNED AND REGISTERED:
COMPUTERSHARE TRUST COMPANY, N.A.
TRANSFER AGENT AND REGISTRAR,

FACSIMILE SIGNATURE TO COME
Secretary

By ______________________
AUTHORIZED SIGNATURE

SECURITY INSTRUCTIONS ON REVERSE

1234567

NEUMORA THERAPEUTICS, INC.

THE COMPANY WILL FURNISH WITHOUT CHARGE TO EACH SHAREHOLDER WHO SO REQUESTS, A SUMMARY OF THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OF THE COMPANY AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND RIGHTS, AND THE VARIATIONS IN RIGHTS, PREFERENCES AND LIMITATIONS DETERMINED FOR EACH SERIES, WHICH ARE FIXED BY THE CERTIFICATE OF INCORPORATION OF THE COMPANY, AS AMENDED, AND THE RESOLUTIONS OF THE BOARD OF DIRECTORS OF THE COMPANY, AND THE AUTHORITY OF THE BOARD OF DIRECTORS TO DETERMINE VARIATIONS FOR FUTURE SERIES. SUCH REQUEST MAY BE MADE TO THE OFFICE OF THE SECRETARY OF THE COMPANY OR TO THE TRANSFER AGENT. THE BOARD OF DIRECTORS MAY REQUIRE THE OWNER OF A LOST OR DESTROYED STOCK CERTIFICATE, OR HIS LEGAL REPRESENTATIVES, TO GIVE THE COMPANY A BOND TO INDEMNIFY IT AND ITS TRANSFER AGENTS AND REGISTRARS AGAINST ANY CLAIM THAT MAY BE MADE AGAINST THEM ON ACCOUNT OF THE ALLEGED LOSS OR DESTRUCTION OF ANY SUCH CERTIFICATE.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	- as tenants in common	UNIF GIFT MIN ACT	-..Custodian .... (Cust) (Minor)
TEN ENT	- as tenants by the entireties		under Uniform Gifts to Minors Act .... (State)
JT TEN	- as joint tenants with right of survivorship and not as tenants in common	UNIF TRF MIN ACT	-..Custodian (until age ....) (Cust) ....under Uniform Transfers to Minors Act .... (Minor) (State)

Additional abbreviations may also be used though not in the above list.

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

For value received, ____________________________ hereby sell, assign and transfer unto

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING POSTAL ZIP CODE, OF ASSIGNEE)

____ Shares

of the Common Stock represented by the within Certificate, and do hereby irrevocably constitute and appoint

____ Attorney

to transfer the said stock on the books of the within-named Company with full power of substitution in the premises.

Dated: ______________________________________ 20 _______________

Signature: ______________________________________

Signature: ______________________________________

Notice: The signature to this assignment must correspond with the name as written upon the face of the certificate, in every particular, without alteration or enlargement, or any change whatever.

Signature(s) Guaranteed: Medallion Guarantee Stamp

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (Banks, Stockbrokers, Savings and Loan Associations and Credit Unions) WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM, PURSUANT TO S.E.C. RULE 17Ad-15.

SECURI TY I NSTRUCTI ONS

TH S I S WATERMARKED PAPER, DO NOT ACCEPT W THOUT NOTI NG WATERMARK. HOLD TO LI GHT TO VERI FY WATERMARK.

The IRS requires that the named transfer agent ("we") report the cost basis of certain shares or units acquired after January 1, 2011. If your shares or units are covered by the legislation, and you requested to sell or transfer the shares or units using a specific cost basis calculation method, then we have processed as you requested. If you did not specify a cost basis calculation method, then we have defaulted to the first in, first out (FIFO) method. Please consult your tax advisor if you need additional information about cost basis.

If you do not keep in contact with the issuer or do not have any activity in your account for the time period specified by state law, your property may become subject to state unclaimed property laws and transferred to the appropriate state.

1234567

Exhibit 5.1

505 Montgomery Street, Suite 2000
San Francisco, California 94111-6538
Tel: +1.415.391.0600 Fax: +1.415.395.8095
www.lw.com

LATHAM & WATKINS LLP

FIRM / AFFILIATE OFFICES

Austin	Milan
Beijing	Munich
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Chicago	Riyadh
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Hong Kong	Silicon Valley
Houston	Singapore
London	Tel Aviv
Los Angeles	Tokyo
Madrid	Washington, D.C.

September 11, 2023

Neumora Therapeutics, Inc.
490 Arsenal Way, Suite 200
Watertown, Massachusetts 02472

Re: Registration Statement on Form S-1 (File No. 333-274229)
Up to 16,916,500 shares of common stock of Neumora Therapeutics, Inc.

To the addressees set forth above:

We have acted as special counsel to Neumora Therapeutics, Inc., a Delaware corporation (the "***Company***"), in connection with the proposed registration of up to 16,916,500 shares (the "***Shares***") of the Company's common stock, par value $0.0001 per share, including 2,206,500 shares pursuant to the exercise of the underwriters' option to purchase additional shares of common stock. The Shares are included in a registration statement on Form S-1 under the Securities Act of 1933, as amended (the "***Act***"), initially filed with the Securities and Exchange Commission (the "***Commission***") on August 25, 2023 (Registration No. 333-274229) (as amended, the "***Registration Statement***"). The term "Shares" shall include any additional shares of common stock registered by the Company pursuant to Rule 462(b) under the Act in connection with the offering contemplated by the Registration Statement. This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related prospectus, other than as expressly stated herein with respect to the issue of the Shares.

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to General Corporation Law of the State of Delaware, and we express no opinion with respect to any other laws.

LATHAM&WATKINS LLP

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the amended and restated certificate of incorporation of the Company in the form most recently filed as an exhibit to the Registration Statement (the "***Amended and Restated Certificate of Incorporation***") has been duly filed with the Secretary of State of the State of Delaware and when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the purchasers and have been issued by the Company against payment therefor (not less than par value) in the circumstances contemplated by the form of underwriting agreement most recently filed as an exhibit to the Registration Statement, the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the General Corporation Law of the State of Delaware.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Registration Statement and to the reference to our firm in the Prospectus under the heading "Legal Matters." We further consent to the incorporation by reference of this letter and consent into any registration statement filed pursuant to Rule 462(b) with respect to the Shares. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Sincerely,

/s/ Latham & Watkins LLP

AMENDMENT NO. 1 TO EXCLUSIVE LICENSE AGREEMENT

This AMENDMENT NO. 1 TO EXCLUSIVE LICENSE AGREEMENT (this "***Amendment***") is made as of June 14, 2022 (the "***Amendment Effective Date***"), by and between Amgen Inc., with its principal offices at One Amgen Center Drive, Thousand Oaks, California 91320 ("***Amgen***") and Neumora Therapeutics, Inc. with its principal offices at 65 Grove Street, Watertown, Massachusetts 02472, ("***Neumora***", f/k/a RBNC Therapeutics, Inc.). Amgen and Neumora are sometimes referred to collectively herein as the "***Parties***" or individually as a "***Party***."

BACKGROUND

WHEREAS, Amgen and Neumora are parties to that certain Exclusive License Agreement for GCase effective as of September 10, 2021 (Amgen Ref. No. 2021086945; the "***Agreement***"); and

WHEREAS, the Parties now desire to amend the Agreement as set forth below.

AGREEMENT

NOW, **THEREFORE**, in consideration of the mutual promises hereinafter set forth and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Definitions. All capitalized terms used herein shall have the meaning given to such terms in the Agreement, unless otherwise specifically defined in this Amendment. Any reference to the Agreement shall, unless the context dictates otherwise, include this Amendment.

2. Amendment to License Agreement. On the Amendment Effective Date, each of Exhibit A and Exhibit B of the Agreement are hereby deleted in their entirety and replaced by Appendix 1.

3. Ratification, Incorporation and Continuing Effect of Agreement. Except as expressly modified by this Amendment, (a) the Parties hereby acknowledge, confirm and ratify all of the terms and conditions set forth in, and all of its obligations under, the Agreement, and (b) all of the terms and conditions set forth in the Agreement are incorporated herein by this reference as if set forth in full herein. Except as provided in Section 2 of this Amendment or otherwise expressly provided under this Amendment, the provisions of the Agreement shall be unmodified and shall continue to be in full force and effect in accordance with its terms.

4. Entire Agreement. This Amendment No. 1 and the Agreement constitute the entire and exclusive agreement between the Parties with respect to the subject matter hereof. All previous discussions and agreements with respect to this subject matter are superseded by the Agreement and this Amendment.

5. Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute one valid and binding agreement. A facsimile or other electronic copy of an executed counterpart signature page will be as valid as an original executed counterpart for purposes of signing this Amendment.

{Signatures follow on the next page}

IN WITNESS WHEREOF, the Parties have caused their duly authorized representatives to execute this Amendment.

AMGEN INC.		**NEUMORA THERAPEUTICS, INC.**	
By:	/s/ Margaret Chu-Moyer	By:	/s/ Paul Berns
Name:	Margaret Chu-Moyer	Name:	Paul Berns
Title:	Vice President, Research	Title:	CEO

APPENDIX 1

Omitted in accordance with Item 601(a)(5) of Regulation S-K.

INDEMNIFICATION AND ADVANCEMENT AGREEMENT

This Indemnification and Advancement Agreement (“**Agreement**”) is made as of , 20 by and between Neumora Therapeutics, Inc., a Delaware corporation (the “**Company**”), and , [a member of the Board of Directors/an officer/an employee] of the Company (“**Indemnitee**”). This Agreement supersedes and replaces any and all previous Agreements between the Company and Indemnitee covering indemnification and advancement of expenses.

RECITALS

WHEREAS, the Board of Directors of the Company (the “**Board**”) believes that highly competent persons have become more reluctant to serve publicly-held corporations as directors, officers, or in other capacities unless they are provided with adequate protection through insurance or adequate indemnification and advancement of expenses against inordinate risks of claims and actions against them arising out of their service to and activities on behalf of the corporation;

WHEREAS, the Board has determined that, in order to attract and retain qualified individuals, the Company will attempt to maintain on an ongoing basis, at its sole expense, liability insurance to protect persons serving the Company and its subsidiaries from certain liabilities. Although the furnishing of such insurance has been a customary and widespread practice among United States-based corporations and other business enterprises, the Company believes that, given current market conditions and trends, such insurance may be available to it in the future only at higher premiums and with more exclusions. At the same time, directors, officers, and other persons in service to corporations or business enterprises are being increasingly subjected to expensive and time-consuming litigation relating to, among other things, matters that traditionally would have been brought only against the Company or business enterprise itself. The Bylaws and Certificate of Incorporation of the Company require indemnification of the officers and directors of the Company. Indemnitee may also be entitled to indemnification pursuant to the General Corporation Law of the State of Delaware (the “**DGCL**”). The Bylaws, the Certificate of Incorporation, and the DGCL expressly provide that the indemnification provisions set forth therein are not exclusive, and thereby contemplate that contracts may be entered into between the Company and members of its board of directors, officers, and other persons with respect to indemnification and advancement of expenses;

WHEREAS, the uncertainties relating to such insurance, to indemnification, and to advancement of expenses may increase the difficulty of attracting and retaining such persons;

WHEREAS, the Board has determined that the increased difficulty in attracting and retaining such persons is detrimental to the best interests of the Company and its stockholders and that the Company should act to assure such persons that there will be increased certainty of such protection in the future;

WHEREAS, it is reasonable, prudent and necessary for the Company contractually to obligate itself to indemnify, and to advance expenses on behalf of, such persons to the fullest extent permitted by applicable law so that they will serve or continue to serve the Company free from undue concern that they will not be so indemnified;

WHEREAS, this Agreement is a supplement to, and in furtherance of, the Bylaws, the Certificate of Incorporation and any resolutions adopted pursuant thereto, as well as any rights of Indemnitee under any directors' and officers' liability insurance policy, and is not a substitute therefor, and does not diminish or abrogate any rights of Indemnitee thereunder; and

WHEREAS, Indemnitee does not regard the protection available under the Bylaws, the Certificate of Incorporation, DGCL and available insurance as adequate in the present circumstances, and may not be willing to serve or continue to serve as an officer, director or employee without adequate additional protection, and the Company desires Indemnitee to serve or continue to serve in such capacity. Indemnitee is willing to serve, continue to serve and to take on additional service for or on behalf of the Company on the condition that Indemnitee be so indemnified and be advanced expenses.

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Company and Indemnitee do hereby covenant and agree as follows:

Section 1. Services to the Company. Indemnitee agrees to serve as a [director/officer/employee/agent] of the Company. Indemnitee may at any time and for any reason resign from such position (subject to any other contractual obligation or any obligation imposed by operation of law). This Agreement does not create any obligation on the Company to continue Indemnitee in such position and is not an employment contract between the Company (or any of its subsidiaries or any Enterprise) and Indemnitee.

Section 2. Definitions. As used in this Agreement:

(a) "**Agent**" means any person who is authorized by the Company or an Enterprise to act for or represent the interests of the Company or an Enterprise, respectively.

(b) A "**Change in Control**" occurs upon the earliest to occur after the date of this Agreement of any of the following events:

i. Acquisition of Stock by Third Party. Any Person (as defined below) is or becomes the Beneficial Owner (as defined below), directly or indirectly, of securities of the Company representing fifteen percent (15%) or more of the combined voting power of the Company's then outstanding securities unless the change in relative beneficial ownership of the Company's securities by any Person results solely from a reduction in the aggregate number of outstanding shares of securities entitled to vote generally in the election of directors;

ii. Change in Board of Directors. During any period of two (2) consecutive years (not including any period prior to the execution of this Agreement), individuals who at the beginning of such period constitute the Board, and any new director (other than a director designated by a person who has entered into an agreement with the Company to effect a transaction described in Sections 2(b)(i), 2(b)(iii) or 2(b)(iv) of this Agreement) whose election by the Board or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute at least a majority of the members of the Board;

iii. Corporate Transactions. The effective date of a merger or consolidation of the Company with any other entity, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity) more than 50% of the combined voting power of the voting securities of the surviving entity outstanding immediately after such merger or consolidation and with the power to elect at least a majority of the board of directors or other governing body of such surviving entity;

iv. Liquidation. The approval by the stockholders of the Company of a complete liquidation of the Company or an agreement for the sale or disposition by the Company of all or substantially all of the Company's assets; and

v. Other Events. There occurs any other event of a nature that would be required to be reported in response to Item 6(e) of Schedule 14A of Regulation 14A (or a response to any similar item on any similar schedule or form) promulgated under the Exchange Act (as defined below), whether or not the Company is then subject to such reporting requirement.

vi. For purposes of this Section 2(b), the following terms have the following meanings:

1 "**Exchange Act**" means the Securities Exchange Act of 1934, as amended from time to time.

2 "**Person**" has the meaning as set forth in Sections 13(d) and 14(d) of the Exchange Act; provided, however, that Person excludes (i) the Company, (ii) any trustee or other fiduciary holding securities under an employee benefit plan of the Company, and (iii) any corporation owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company.

3 "**Beneficial Owner**" has the meaning given to such term in Rule 13d-3 under the Exchange Act; provided, however, that Beneficial Owner excludes any Person otherwise becoming a Beneficial Owner by reason of the stockholders of the Company approving a merger of the Company with another entity.

(c) "**Corporate Status**" describes the status of a person who is or was acting as a director, officer, employee, fiduciary, or Agent of the Company or an Enterprise.

(d) "**Disinterested Director**" means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(e) “**Enterprise**” means any other corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other entity for which Indemnitee is or was serving at the request of the Company as a director, officer, employee, or Agent.

(f) “**Expenses**” includes all reasonable attorneys’ fees, retainers, court costs, transcript costs, fees of experts and other professionals, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, any federal, state, local or foreign taxes imposed on Indemnitee as a result of the actual or deemed receipt of any payments under this Agreement, ERISA excise taxes and penalties, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding. Expenses also include (i) Expenses incurred in connection with any appeal resulting from any Proceeding, including without limitation the premium, security for, and other costs relating to any cost bond, supersedeas bond, or other appeal bond or its equivalent, and (ii) for purposes of Section 14(d) of this Agreement only, Expenses incurred by Indemnitee in connection with the interpretation, enforcement or defense of Indemnitee’s rights under this Agreement, by litigation or otherwise. Expenses, however, do not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(g) “**Independent Counsel**” means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Company or Indemnitee in any matter material to either such party (other than with respect to matters concerning the Indemnitee under this Agreement, or of other indemnitees under similar indemnification agreements) or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” does not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee’s rights under this Agreement.

(h) “**Potential Change in Control**” means the occurrence of any of the following events: (i) the Company enters into any written or oral agreement, undertaking or arrangement, the consummation of which would result in the occurrence of a Change in Control; (ii) any Person or the Company publicly announces an intention to take or consider taking actions which if consummated would constitute a Change in Control; (iii) any Person who becomes the Beneficial Owner, directly or indirectly, of securities of the Company representing 5% or more of the combined voting power of the Company’s then outstanding securities entitled to vote generally in the election of directors increases his beneficial ownership of such securities by 5% or more over the percentage so owned by such Person on the date hereof; or (iv) the Board adopts a resolution to the effect that, for purposes of this Agreement, a Potential Change in Control has occurred.

(i) “**Proceeding**” includes any threatened, pending or completed action, suit, claim, counterclaim, cross claim, arbitration, mediation, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing, or any other actual, threatened or completed proceeding, whether brought in the right of the Company or otherwise and whether of a civil, criminal, administrative, legislative, regulatory, or investigative (formal or informal) nature, including any appeal therefrom, in which Indemnitee was, is, or will be involved as a party, potential party, non-party witness, or otherwise by reason of Indemnitee's Corporate Status or by reason of any action taken by Indemnitee (or a failure to take action by Indemnitee) or of any action (or failure to act) on Indemnitee's part while acting pursuant to Indemnitee's Corporate Status, in each case whether or not serving in such capacity at the time any liability or Expense is incurred for which indemnification, reimbursement, or advancement of Expenses can be provided under this Agreement. A Proceeding also includes a situation the Indemnitee believes in good faith may lead to, or culminate in, the institution of a Proceeding.

Section 3. Indemnity in Third-Party Proceedings. The Company will indemnify Indemnitee in accordance with the provisions of this Section 3 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding, other than a Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 3, the Company will indemnify Indemnitee to the fullest extent permitted by applicable law against all Expenses, judgments, fines and amounts paid in settlement (including all interest, assessments and other charges paid or payable in connection with or in respect of such Expenses, judgments, fines and amounts paid in settlement) actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company and, in the case of a criminal Proceeding had no reasonable cause to believe that Indemnitee's conduct was unlawful.

Section 4. Indemnity in Proceedings by or in the Right of the Company. The Company will indemnify Indemnitee in accordance with the provisions of this Section 4 if Indemnitee is, or is threatened to be made, a party to or a participant in any Proceeding by or in the right of the Company to procure a judgment in its favor. Pursuant to this Section 4, the Company will indemnify Indemnitee to the fullest extent permitted by applicable law against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with such Proceeding or any claim, issue or matter therein, if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company. The Company will not indemnify Indemnitee for Expenses under this Section 4 related to any claim, issue or matter in a Proceeding for which Indemnitee has been finally adjudged by a court to be liable to the Company, unless, and only to the extent that, the Delaware Court of Chancery or any court in which the Proceeding was brought determines upon application by Indemnitee that, despite the adjudication of liability but in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnification.

Section 5. Indemnification for Expenses of a Party Who is Wholly or Partly Successful. Notwithstanding any other provisions of this Agreement, to the fullest extent permitted by applicable law, the Company will indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee in connection with any Proceeding to the extent that Indemnitee is successful, on the merits or otherwise. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Company will indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with or related to each successfully resolved claim, issue or matter to the fullest extent permitted by law. For purposes of this Section 5 and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, will be deemed to be a successful result as to such claim, issue or matter.

Section 6. Indemnification For Expenses of a Witness. Notwithstanding any other provision of this Agreement and to the fullest extent permitted by applicable law, the Company will indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with any Proceeding to which Indemnitee is not a party but to which Indemnitee is a witness, deponent, interviewee, or otherwise asked to participate.

Section 7. Partial Indemnification. If Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of Expenses, but not, however, for the total amount thereof, the Company will indemnify Indemnitee for the portion thereof to which Indemnitee is entitled.

Section 8. Additional Indemnification. Notwithstanding any limitation in Sections 3, 4, or 5 of this Agreement, the Company will indemnify Indemnitee to the fullest extent permitted by applicable law (including but not limited to, the DGCL and any amendments to or replacements of the DGCL adopted after the date of this Agreement that expand the Company's ability to indemnify its officers, directors, employees or Agents) if Indemnitee is a party to or threatened to be made a party to any Proceeding (including a Proceeding by or in the right of the Company to procure a judgment in its favor).

Section 9. Exclusions. Notwithstanding any provision in this Agreement, the Company is not obligated under this Agreement to make any Indemnification payment to Indemnitee in connection with any Proceeding:

(a) for which payment has actually been made to or on behalf of Indemnitee under any insurance policy or other indemnity provision, except to the extent provided in Section 16(b) of the Exchange Act (as defined in Section 2(b) hereof) and except with respect to any excess beyond the amount paid under any insurance policy or other indemnity provision; provided, however, that payment made to Indemnitee pursuant to an insurance policy purchased and maintained by Indemnitee at his or her own expense of any amounts otherwise indemnifiable or obligated to be made pursuant to this Agreement shall not reduce the Company's obligations to Indemnitee pursuant to this Agreement or

(b) for (i) an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Exchange Act or similar provisions of state statutory law or common law, (ii) any reimbursement of the Company by the Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by the Indemnitee from the sale of securities of the Company, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Company pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "**Sarbanes-Oxley Act**"), or the payment to the Company of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act) or (iii) any reimbursement of the Company by Indemnitee of any compensation pursuant to any compensation recoupment or clawback policy adopted by the Board or the compensation committee of the Board, including but not limited to any such policy adopted to comply with stock exchange listing requirements implementing Section 10D of the Exchange Act; or

(c) any Proceeding initiated by Indemnitee, including any Proceeding (or any part of any Proceeding) initiated by Indemnitee against the Company or its directors, officers, employees or other indemnitees, unless (i) the Proceeding or part of any Proceeding is to enforce Indemnitee's rights to indemnification or advancement, of Expenses, including a Proceeding (or any part of any Proceeding) initiated pursuant to Section 14 of this Agreement, (ii) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation or (iii) the Company provides the indemnification, in its sole discretion, pursuant to the powers vested in the Company under applicable law.

Section 10. Advances of Expenses.

(a) The Company will advance, to the extent not prohibited by law (as determined by a court of competent jurisdiction in a final adjudication not subject to further appeal), the Expenses incurred by Indemnitee in connection with any Proceeding (or any part of any Proceeding) not initiated by Indemnitee or any Proceeding (or any part of any Proceeding) initiated by Indemnitee if (i) the Proceeding or part of any Proceeding is to enforce Indemnitee's rights to obtain indemnification or advancement of Expenses from the Company or Enterprise, including a proceeding initiated pursuant to Section 14 or (ii) the Board authorized the Proceeding (or any part of any Proceeding) prior to its initiation. The Company will advance the Expenses within thirty (30) days after the receipt by the Company of a statement or statements requesting such advances from time to time, whether prior to or after final disposition of any Proceeding eligible for advancement of expenses.

(b) Advances will be unsecured and interest free. Indemnitee undertakes to repay the amounts advanced (without interest) to the extent that it is ultimately determined that Indemnitee is not entitled to be indemnified by the Company, thus Indemnitee qualifies for advances upon the execution of this Agreement and delivery to the Company. No other form of undertaking is required other than the execution of this Agreement. The Company will make advances without regard to Indemnitee's ability to repay the Expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement.

Section 11. Procedure for Notification of Claim for Indemnification or Advancement.

(a) Indemnitee will notify the Company in writing of any Proceeding with respect to which Indemnitee intends to seek indemnification or advancement of Expenses hereunder as soon as reasonably practicable following the receipt by Indemnitee of written notice thereof. Indemnitee will include in the written notification to the Company a description of the nature of the Proceeding. Indemnitee's failure to notify the Company will not relieve the Company from any obligation it may have to Indemnitee under this Agreement, and any delay in so notifying the Company will not constitute a waiver by Indemnitee of any rights under this Agreement. The Secretary of the Company will, promptly upon receipt of such a request for indemnification or advancement, advise the Board in writing that Indemnitee has requested indemnification or advancement. Indemnitee agrees to choose counsel that is a member of the approved list of panel counsel under the Company's applicable directors' and officers' insurance policy, should the applicable policy provide for a panel of approved counsel.

(b) The Company will be entitled to participate in the Proceeding at its own expense.

Section 12. Procedure Upon Application for Indemnification.

(a) Unless a Change of Control has occurred, the determination of Indemnitee's entitlement to indemnification will be made:

i. by a majority vote of the Disinterested Directors, even though less than a quorum of the Board;

ii. by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum of the Board;

iii. if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by written opinion provided by Independent Counsel selected by the Board; or

iv. if so directed by the Board, by the stockholders of the Company.

(b) If a Change in Control has occurred, the determination of Indemnitee's entitlement to indemnification will be made by written opinion provided by Independent Counsel selected by Indemnitee (unless Indemnitee requests such selection be made by the Board).

(c) The party selecting Independent Counsel pursuant to subsection (a)(iii) or (b) of this Section 12 will provide written notice of the selection to the other party. The notified party may, within ten (10) days after receiving written notice of the selection of Independent Counsel, deliver to the selecting party a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 2 of this Agreement, and the objection will set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person so selected will act as Independent Counsel. If such written objection is so made and substantiated, the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or the Delaware Court has determined that such objection is without merit. If, within thirty (30) days after the later of submission by Indemnitee of a written request for indemnification pursuant to Section 11(a) of this Agreement and the final disposition of the Proceeding, Independent Counsel has not been selected or, if selected, any objection to such selection has not been resolved, either the Company or Indemnitee may petition the Delaware Court for the appointment as Independent Counsel of a person selected by such court or by such other person as such court designates. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 14(a) of this Agreement, Independent Counsel will be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

(d) Indemnitee will cooperate with the person, persons or entity making the determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. The Company will advance and pay any Expenses incurred by Indemnitee in so cooperating with the person, persons or entity making the indemnification determination irrespective of the determination as to Indemnitee's entitlement to indemnification and the Company hereby indemnifies and agrees to hold Indemnitee harmless therefrom. The Company promptly will advise Indemnitee in writing of the determination that Indemnitee is or is not entitled to indemnification, including a description of any reason or basis for which indemnification has been denied and providing a copy of any written opinion provided to the Board by Independent Counsel.

(e) If it is determined that Indemnitee is entitled to indemnification, the Company will make payment to Indemnitee within thirty (30) days after such determination.

Section 13. Presumptions and Effect of Certain Proceedings.

(a) In making a determination with respect to entitlement to indemnification under this Agreement, the person, persons, or entity making such determination will, to the fullest extent not prohibited by law, presume Indemnitee is entitled to indemnification under this Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 11(a) of this Agreement, and the Company will, to the fullest extent not prohibited by law, have the burden of proof to overcome that presumption. Neither the failure of the Company (including by its directors or Independent Counsel) to have made a determination prior to the commencement of any action pursuant to this Agreement that indemnification is proper under the circumstances because Indemnitee has met the applicable standard of conduct, nor an actual determination by the Company (including by its directors or Independent Counsel) that Indemnitee has not met such applicable standard of conduct, will be a defense to the action or create a presumption that Indemnitee has not met the applicable standard of conduct.

(b) If the determination of the Indemnitee's entitlement to indemnification has not been made pursuant to Section 12 of this Agreement within sixty (60) days after the latter of (i) receipt by the Company of Indemnitee's request for indemnification pursuant to Section 11(a) of this Agreement and (ii) the final disposition of the Proceeding for which Indemnitee requested Indemnification (the "**Determination Period**"), the requisite determination of entitlement to indemnification will, to the fullest extent not prohibited by law, be deemed to have been made and Indemnitee will be entitled to such indemnification, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law. The Determination Period may be extended for a reasonable time, not to exceed an additional thirty (30) days, if the person, persons or entity making the determination with respect to entitlement to indemnification in good faith requires such additional time for the obtaining or evaluating of documentation and/or information relating thereto; and provided, further, the Determination Period may be extended an additional fifteen (15) days if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 12(a)(iv) of this Agreement.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, will not (except as otherwise expressly provided in this Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in or not opposed to the best interests of the Company or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful.

(d) For purposes of any determination of good faith, Indemnitee will be deemed to have acted in good faith if Indemnitee acted based on the records or books of account of the Company, its subsidiaries, or an Enterprise, including financial statements, or on information supplied to Indemnitee by the directors or officers of the Company, its subsidiaries, or an Enterprise in the course of their duties, or on the advice of legal counsel for the Company, its subsidiaries, or an Enterprise or on information or records given or reports made to the Company or an Enterprise by an independent certified public accountant or by an appraiser, financial advisor or other expert selected with reasonable care by or on behalf of the Company, its subsidiaries, or an Enterprise. Further, Indemnitee will be deemed to have acted in a manner "not opposed to the best interests of the Company," as referred to in this Agreement if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in the best interests of the participants and beneficiaries of an employee benefit plan. The provisions of this Section 13(d) is not exclusive and does not limit in any way the other circumstances in which the Indemnitee may be deemed to have met the applicable standard of conduct set forth in this Agreement.

(e) The knowledge and/or actions, or failure to act, of any other person affiliated with the Company or an Enterprise (including, but not limited to, a director, officer, trustee, partner, managing member, Agent or employee) may not be imputed to Indemnitee for purposes of determining Indemnitee's right to indemnification under this Agreement.

Section 14. Remedies of Indemnitee.

(a) Indemnitee may commence litigation against the Company in the Delaware Court of Chancery to obtain indemnification or advancement of Expenses provided by this Agreement in the event that (i) a determination is made pursuant to Section 12 of this Agreement that Indemnitee is not entitled to indemnification under this Agreement, (ii) the Company does not advance Expenses pursuant to Section 10 of this Agreement, (iii) the determination of entitlement to indemnification is not made pursuant to Section 12 of this Agreement within the Determination Period, (iv) the Company does not indemnify Indemnitee pursuant to Section 5 or 6 or the second to last sentence of Section 12(d) of this Agreement within thirty (30) days after receipt by the Company of a written request therefor, (v) the Company does not indemnify Indemnitee pursuant to Section 3, 4, 7, or 8 of this Agreement within thirty (30) days after a determination has been made that Indemnitee is entitled to indemnification, or (vi) in the event that the Company or any other person takes or threatens to take any action to declare this Agreement void or unenforceable, or institutes any litigation or other action or Proceeding designed to deny, or to recover from, the Indemnitee the benefits provided or intended to be provided to the Indemnitee hereunder. Alternatively, Indemnitee, at Indemnitee's option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. Indemnitee must commence such Proceeding seeking an adjudication or an award in arbitration within 180 days following the date on which Indemnitee first has the right to commence such Proceeding pursuant to this Section 14(a); provided, however, that the foregoing clause does not apply in respect of a Proceeding brought by Indemnitee to enforce Indemnitee's rights under Section 5 of this Agreement. The Company will not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) If a determination is made pursuant to Section 12 of this Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 14 will be conducted in all respects as a *de novo* trial, or arbitration, on the merits and Indemnitee may not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 14 the Company will have the burden of proving Indemnitee is not entitled to indemnification or advancement of Expenses, as the case may be and will not introduce evidence of the determination made pursuant to Section 12 of this Agreement.

(c) If a determination is made pursuant to Section 12 of this Agreement that Indemnitee is entitled to indemnification, the Company will be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 14 unless (i) a misstatement is made of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with Indemnitees' request for indemnification, or (ii) the Company is prohibited from indemnifying Indemnitee under applicable law.

(d) The Company is precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 14 that the procedures and presumptions of this Agreement are not valid, binding, or enforceable and will stipulate in any such court or before any such arbitrator that the Company is bound by all the provisions of this Agreement.

(e) It is the intent of the Company that, to the fullest extent permitted by law, the Indemnitee not be required to incur legal fees or other Expenses associated with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement by litigation or otherwise because the cost and expense thereof would substantially detract from the benefits intended to be extended to the Indemnitee under this Agreement. The Company, to the fullest extent permitted by law, will (within thirty (30) days after receipt by the Company of a written request therefor) advance to Indemnitee such Expenses which are incurred by Indemnitee in connection with a Proceeding concerning this Agreement, Indemnitee's other rights to indemnification or advancement of Expenses from the Company, or concerning any directors' and officers' liability insurance policies maintained by the Company, and will indemnify Indemnitee against any and all such Expenses unless the court determines that each of the Indemnitee's claims in such Proceeding were made in bad faith or frivolous, or that the Company is prohibited by law from indemnifying Indemnitee for such Expenses.

Section 15. Non-exclusivity; Survival of Rights; Insurance; Subrogation.

(a) The indemnification and advancement of Expenses provided by this Agreement are not exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the Bylaws, any agreement, a vote of stockholders or a resolution of the board of directors, or otherwise. The indemnification and advancement of Expenses provided by this Agreement may not be limited or restricted by any amendment, alteration or repeal of this Agreement in any way with respect to any action taken or omitted by Indemnitee in Indemnitee's Corporate Status occurring prior to any amendment, alteration or repeal of this Agreement. To the extent that a change in Delaware law, whether by statute or judicial decision, permits greater indemnification or advancement of Expenses than would be afforded currently under the Bylaws, Certificate of Incorporation, or this Agreement, it is the intent of the parties hereto that Indemnitee enjoy by this Agreement the greater benefits so afforded by such change. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy is cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, will not prevent the concurrent assertion or employment of any other right or remedy.

(b) The Company hereby acknowledges that Indemnitee may have certain rights to indemnification, advancement of Expenses and/or insurance provided by one or more Persons with whom or which Indemnitee may be associated [(including, without limitation, [Fund] and certain of its affiliates, collectively, the "**Fund Indemnitors**")]).

i. The Company hereby acknowledges and agrees:

1) the Company is the indemnitor of first resort with respect to any request for indemnification or advancement of Expenses made pursuant to this Agreement concerning any Proceeding arising from or related to Indemnitee's Corporate Status with the Company;

2) the Company is primarily liable for all indemnification or advancement of Expenses obligations for any Proceeding arising from or related to Indemnitee's Corporate Status, whether created by law, organizational or constituent documents, contract (including this Agreement) or otherwise;

3) any obligation of any other Persons with whom or which Indemnitee may be associated [(including, without limitation, any Fund Indemnitor)] to indemnify Indemnitee and/or advance Expenses to Indemnitee in respect of any proceeding are secondary to the Company's obligations;

4) the Company will indemnify Indemnitee and advance Expenses to Indemnitee hereunder to the fullest extent provided herein without regard to any rights Indemnitee may have against any other Person with whom or which Indemnitee may be associated [(including any Fund Indemnitor)] or an insurer of any such Person; and

ii. the Company irrevocably waives, relinquishes and releases [(A)] any other Person with whom or which Indemnitee may be associated [(including, without limitation, any Fund Indemnitor)] from any claim of contribution, subrogation, reimbursement, exoneration or indemnification, or any other recovery of any kind in respect of amounts paid by the Company to Indemnitee pursuant to this Agreement [and (B) any right to participate in any claim or remedy of Indemnitee against any Fund Indemnitor (or former Fund Indemnitor)], whether or not such claim, remedy or right arises in equity or under contract, statute or common law[, including, without limitation, the right to take or receive from any Fund Indemnitor (or former Fund Indemnitor), directly or indirectly, in cash or other property or by set-off or in any other manner, payment or security on account of such claim, remedy or right].

iii. In the event any other Person with whom or which Indemnitee may be associated [(including, without limitation, any Fund Indemnitor)] or their insurers advances or extinguishes any liability or loss for Indemnitee, the payor has a right of subrogation against the Company or its insurers for all amounts so paid which would otherwise be payable by the Company or its insurers under this Agreement. In no event will payment by any other Person with whom or which Indemnitee may be associated [(including, without limitation, any Fund Indemnitor)] or their insurers affect the obligations of the Company hereunder or shift primary liability for the Company's obligation to indemnify or advance of Expenses to any other Person with whom or which Indemnitee may be associated [(including, without limitation, any Fund Indemnitor)].

iv. Any indemnification or advancement of Expenses provided by any other Person with whom or which Indemnitee may be associated [(including, without limitation, any Fund Indemnitor)] is specifically in excess over the Company's obligation to indemnify and advance Expenses or any valid and collectible insurance (including but not limited to any malpractice insurance or professional errors and omissions insurance) provided by the Company.

(c) To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or Agents of the Enterprise, the Company will obtain a policy or policies covering Indemnitee to the maximum extent of the coverage available for any such director, officer, employee or Agent under such policy or policies, including coverage in the event the Company does not or cannot, for any reason, indemnify or advance Expenses to Indemnitee as required by this Agreement. If, at the time of the receipt of a notice of a claim pursuant to this Agreement, the Company has director and officer liability insurance in effect, the Company will give prompt notice of such claim or of the commencement of a Proceeding, as the case may be, to the insurers in accordance with the procedures set forth in the respective policies. The Company will thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such Proceeding in accordance with the terms of such policies. Indemnitee agrees to assist the Company's efforts to cause the insurers to pay such amounts and will comply with the terms of such policies, including selection of approved panel counsel, if required. In the event of a Change in Control or the Company's becoming insolvent, the Company shall maintain in force any and all insurance policies then maintained by the Company in providing insurance—directors' and officers' liability, fiduciary, employment practices or otherwise—in respect of the individual directors and officers of the Company, for a fixed period of six years thereafter (a "**Tail Policy**"). Such coverage shall be non-cancellable and shall be placed and serviced for the duration of its term by the Company's incumbent insurance broker. Such broker shall place the Tail policy with the incumbent insurance carriers using the policies that were in place at the time of the Change in Control (unless the incumbent carriers will not offer such policies, in which case the Tail Policy placed by the Company's insurance broker shall be substantially comparable in scope and amount as the expiring policies, and the insurance carriers for the Tail Policy shall have an AM Best rating that is the same or better than the AM Best ratings of the expiring policies).

(d) The Company's obligation to indemnify or advance Expenses hereunder to Indemnitee for any Proceeding concerning Indemnitee's Corporate Status with an Enterprise will be reduced by any amount Indemnitee has actually received as indemnification or advancement of Expenses from such Enterprise. The Company and Indemnitee intend that any such Enterprise (and its insurers) be the indemnitor of first resort with respect to indemnification and advancement of Expenses for any Proceeding related to or arising from Indemnitee's Corporate Status with such Enterprise. The Company's obligation to indemnify and advance Expenses to Indemnitee is secondary to the obligations the Enterprise or its insurers owe to Indemnitee. Indemnitee agrees to take all reasonably necessary and desirable action to obtain from an Enterprise indemnification and advancement of Expenses for any Proceeding related to or arising from Indemnitee's Corporate Status with such Enterprise.

(e) In the event of any payment made by the Company under this Agreement, the Company will be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee from any Enterprise or insurance carrier. Indemnitee will execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

Section 16. Duration of Agreement. All the rights and privileges afforded by this Agreement, including the right to indemnification and the advancement of legal fees provided under this Agreement, shall continue as to Indemnitee for any action taken or not taken while serving in an indemnified capacity pertaining to an indemnifiable event even though Indemnitee may have ceased to serve in such capacity at the time of any Proceeding The indemnification and advancement of Expenses rights provided by or granted pursuant to this Agreement are (i) binding upon and be enforceable by the parties hereto and their respective successors and assigns (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business or assets of the Company), (ii) continue as to an Indemnitee who has ceased to be a director, officer, employee or Agent of the Company or of any other Enterprise, and (iii) inure to the benefit of Indemnitee and Indemnitee's spouse, assigns, heirs, devisees, executors and administrators and other legal representatives.

Section 17. Severability. If any provision or provisions of this Agreement is held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Agreement (including without limitation, each portion of any section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) will not in any way be affected or impaired thereby and will remain enforceable to the fullest extent permitted by law; (b) such provision or provisions will be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and (c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any section of this Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) will be construed so as to give effect to the intent manifested thereby.

Section 18. Interpretation. Any ambiguity in the terms of this Agreement will be resolved in favor of Indemnitee and in a manner to provide the maximum indemnification and advancement of Expenses permitted by law. The Company and Indemnitee intend that this

Agreement provide to the fullest extent permitted by law for indemnification and advancement of Expenses in excess of that expressly provided, without limitation, by the Certificate of Incorporation, the Bylaws, vote of the Company's stockholders or disinterested directors, or applicable law.

Section 19. Enforcement.

(a) The Company expressly confirms and agrees that it has entered into this Agreement and assumed the obligations imposed on it hereby in order to induce Indemnitee to serve as a director, officer, employee, or Agent of the Company, and the Company acknowledges that Indemnitee is relying upon this Agreement in serving or continuing to serve as a director, officer, employee, or Agent of the Company.

(b) This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written and implied, between the parties hereto with respect to the subject matter hereof; provided, however, that this Agreement is a supplement to and in furtherance of the Certificate of Incorporation, the Bylaws, any directors' and officers' insurance maintained by the Company, and applicable law, is not a substitute therefor, and does not diminish or abrogate any rights of Indemnitee thereunder.

Section 20. Modification and Waiver. No supplement, modification or amendment of this Agreement is binding unless executed in writing by the parties hereto. No waiver of any of the provisions of this Agreement will be deemed to constitute a waiver of any other provision of this Agreement nor will any waiver constitute a continuing waiver.

Section 21. Notice by Indemnitee. Indemnitee agrees to promptly notify the Company in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification or advancement of Expenses covered hereunder. The failure of Indemnitee to so notify the Company does not relieve the Company of any obligation which it may have to the Indemnitee under this Agreement or otherwise.

Section 22. Notices. All notices, requests, demands and other communications under this Agreement will be in writing and will be deemed to have been duly given if (a) delivered by hand to the other party, (b) sent by reputable overnight courier to the other party or (c) sent by facsimile transmission or electronic mail, with receipt of oral confirmation that such communication has been received:

(a) If to Indemnitee, at the address indicated on the signature page of this Agreement, or such other address as Indemnitee provides to the Company.

(b) If to the Company to:

Name:	Neumora Therapeutics, Inc.
Address:	490 Arsenal Way, Suite 100
	Watertown, Massachusetts 02472
Attention:	Corporate Secretary
Email:	[ ]

or to any other address as may have been furnished to Indemnitee by the Company.

Section 23. Contribution. To the fullest extent permissible under applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, will contribute to the amount incurred by Indemnitee, whether for judgments, fines, penalties, excise taxes, amounts paid or to be paid in settlement and/or for Expenses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company and Indemnitee as a result of the event(s) and/or transaction(s) giving cause to such Proceeding; and/or (ii) the relative fault of the Company (and its directors, officers, employees and Agents) and Indemnitee in connection with such event(s) and/or transaction(s).

Section 24. Applicable Law and Consent to Jurisdiction. This Agreement and the legal relations among the parties are governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules. Except with respect to any arbitration commenced by Indemnitee pursuant to Section 14(a) of this Agreement, the Company and Indemnitee hereby irrevocably and unconditionally (i) agree that any action or Proceeding arising out of or in connection with this Agreement may be brought only in the Delaware Court of Chancery and not in any other state or federal court in the United States of America or any court in any other country, (ii) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or Proceeding arising out of or in connection with this Agreement, (iii) waive any objection to the laying of venue of any such action or Proceeding in the Delaware Court, and (iv) waive, and agree not to plead or to make, any claim that any such action or Proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

Section 25. Identical Counterparts. This Agreement may be executed in one or more counterparts, each of which will for all purposes be deemed to be an original but all of which together constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of this Agreement.

Section 26. Headings. The headings of this Agreement are inserted for convenience only and do not constitute part of this Agreement or affect the construction thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed as of the day and year first above written.

NEUMORA THERAPEUTICS, INC.	INDEMNITEE
By: ____________________	____________________
Name:	Name:
Office:	Address: ____________________
	____________________
	____________________

[*Signature Page to Indemnification Agreement*]

NEUMORA THERAPEUTICS, INC.
NON-EMPLOYEE DIRECTOR COMPENSATION PROGRAM

This Neumora Therapeutics, Inc. (the "***Company***") Non-Employee Director Compensation Program (this "***Program***") has been adopted under the Company's 2023 Incentive Award Plan (the "***Plan***") and shall be effective upon the closing of the Company's initial public offering of its common stock (the "***IPO***"). Capitalized terms not otherwise defined herein shall have the meaning ascribed in the Plan.

Cash Compensation

Effective upon the IPO, annual retainers will be paid in the following amounts to Non-Employee Directors:

Non-Employee Director:	$40,000
Lead Independent Director:	$25,000
Audit Committee Chair:	$20,000
Compensation Committee Chair:	$15,000
Nominating and Corporate Governance Committee Chair:	$10,000
Audit Committee Member (non-Chair):	$10,000
Compensation Committee Member (non-Chair):	$ 7,500
Nominating and Corporate Governance Committee Member (non-Chair):	$ 5,000

All annual retainers are additive and will be paid in cash quarterly in arrears promptly following the end of the applicable calendar quarter, but in no event more than 30 days after the end of such quarter. In the event a Non-Employee Director does not serve as a Non-Employee Director, or in the applicable positions described above, for an entire calendar quarter, the retainer paid to such Non-Employee Director shall be prorated for the portion of such calendar quarter actually served as a Non-Employee Director, or in such position, as applicable.

Election to Receive Restricted Stock Units In Lieu of Annual Retainer

General: Each Non-Employee Director may elect to convert all or a portion of his or her annual retainer into a number of Restricted Stock Units ("***Retainer RSUs***") granted under the Plan or any other applicable Company equity incentive plan then-maintained by the Company covering a number of shares of Common Stock calculated by dividing (i) the amount of the annual retainer that would have otherwise been paid to such Non-Employee Director on the applicable grant date by (ii) the per share Fair Market Value as of the date of grant (such election, a "***Retainer RSU Election***").

	Each award of Retainer RSUs will be granted on the fifth day of the month immediately following the end of the quarter for which the corresponding portion of the annual retainer was earned, except that if such fifth day of the month is not a trading day, the applicable award of Retainer RSUs will be granted on the next trading day following such date. Each award of Retainer RSUs will be fully vested on the date of grant.
Election Method:	Each Retainer RSU Election must be submitted to Company in the form and manner specified by the Board of Directors of the Company (the "***Board***") or Compensation Committee of the Board (the "***Compensation Committee***"). An individual who fails to make a timely Retainer RSU Election shall not receive Retainer RSUs and instead shall receive the applicable annual retainer in cash. Retainer RSU Elections must comply with the following timing requirements: • <u>Initial Election</u>. Each individual who first becomes a Non-Employee Director may make a Retainer RSU Election with respect to annual retainer payments scheduled to be paid in the same calendar year as such individual first becomes a Non-Employee Director (the "***Initial Election***"). The Initial Election must be submitted to the Company on or prior to the date that the individual first becomes a Non-Employee Director (the "***Initial Election Deadline***"), and the Initial Election shall become final and irrevocable as of the Initial Election Deadline. • <u>Annual Election</u>. No later than December 31 of each calendar year, or such earlier deadline as may be established by the Board or the Compensation Committee, in its discretion (the "***Annual Election Deadline***"), each individual who is a Non-Employee Director as of immediately prior to the Annual Election Deadline may make a Retainer RSU Election with respect to the annual retainer relating to services to be performed in the following calendar year (the "***Annual Election***"). The Annual Election must be submitted to the Company on or prior to the applicable Annual Election Deadline and shall become effective and irrevocable as of the Annual Election Deadline.

- Deferral of Settlment. The Board, the Compensation Committee or their respective authorized designee may, in its discretion, provide an individual who is a Non-Employee Director with the opportunity to defer the delivery of the shares underlying Retainer RSUs that would otherwise be delivered to the individual hereunder. Any such deferral election shall be subject to such rules, conditions and procedures as shall be determined by the Board or the Compensation Committee, in its sole discretion, which rules, conditions and procedures shall at all times comply with the requirements of Section 409A of the Code, unless otherwise specifically determined by the Board or the Compensation Committee. If an individual elects to defer the delivery of the shares underlying Retainer RSUs in accordance herewith, settlement of the deferred Retainer RSUs shall be made in accordance with the terms of the Retainer RSU Election.

Equity Compensation

Initial Stock Option Grant:	Each Non-Employee Director who is initially elected or appointed to serve on the Board after the IPO shall be granted an Option under the Plan or any other applicable Company equity incentive plan then-maintained by the Company to purchase that number of shares of Common Stock calculated by dividing (i) $600,000 by (ii) the per share grant date fair value of the Option, calculated based on the closing trading price of the Common Stock as of the date of grant (or if the date of grant is not a trading day, the immediately preceding trading day) and using assumptions published in the Company's most recent periodic report with such information as of the date of grant, rounded down to the nearest whole share (the "***Initial Option***"). The Initial Option will be automatically granted on the date on which such Non-Employee Director commences service on the Board, and will vest as to 1/36th of the shares subject thereto on each monthly anniversary of the applicable date of grant such that the shares subject to the Initial Option are fully vested on the third anniversary of the date of grant, subject to the Non-Employee Director continuing in service on the Board through each such vesting date.

Annual Stock Option Grant:	Each Non-Employee Director who (i) has been serving on the Board for at least four months as of each meeting of the Company’s stockholders after the IPO (each, an “***Annual Meeting***”) and (ii) will continue to serve as a Non-Employee Director immediately following such meeting, shall be granted an Option under the Plan or any other applicable Company equity incentive plan then-maintained by the Company to purchase a number of shares of Common Stock calculated by dividing (i) $350,000 by (ii) the per share grant date fair value of the Option, calculated based on the closing trading price of the Common Stock as of the date of grant (or if the date of grant is not a trading day, the immediately preceding trading day) and using assumptions published in the Company’s most recent periodic report with such information as of the date of grant, rounded down to the nearest whole share (the “***Annual Option***”). The Annual Option will be automatically granted on the date of the applicable Annual Meeting, and will vest in full on the earlier of (i) the first anniversary of the date of grant and (ii) immediately prior to the Annual Meeting following the date of grant, subject to the Non-Employee Director continuing in service on the Board through such vesting date.

The per share exercise price of each Option granted to a Non-Employee Director shall equal the Fair Market Value of a share of Common Stock on the date the Option is granted.

The term of each Option granted to a Non-Employee Director shall be ten years from the date the Option is granted, subject to earlier termination in connection with cessation of Board service.

Members of the Board who are employees of the Company or any parent or subsidiary of the Company who subsequently terminate their employment with the Company and any parent or subsidiary of the Company and remain on the Board will not receive an Initial Option, but to the extent that they are otherwise eligible, will be eligible to receive, after termination from employment with the Company and any parent or subsidiary of the Company, Annual Options as described above.

Change in Control

Upon a Change in Control of the Company, all outstanding equity awards granted under the Plan and any other equity incentive plan maintained by the Company that are held by a Non-Employee Director shall become fully vested and/or exercisable, irrespective of any other provisions of the Non-Employee Director’s Award Agreement.

Reimbursements

The Company shall reimburse each Non-Employee Director for all reasonable, documented, out-of-pocket travel and other business expenses incurred by such Non-Employee Director in the performance of his or her duties to the Company in accordance with the Company’s applicable expense reimbursement policies and procedures as in effect from time to time.

Miscellaneous

The other provisions of the Plan shall apply to the Options granted automatically pursuant to this Program, except to the extent such other provisions are inconsistent with this Program. All applicable terms of the Plan apply to this Program as if fully set forth herein, and all grants of Options hereby are subject in all respects to the terms of the Plan. The grant of any Option under this Program shall be made solely by and subject to the terms set forth in a written agreement in a form to be approved by the Board and duly executed by an executive officer of the Company.

*** * * * ***

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” and to the use of our report dated May 2, 2023 (except for the effects of the reverse stock split described in Note 1 and Note 18, as to which the date is September 11, 2023), in the Registration Statement (Form S-1 No. 333-274229) and related Prospectus of Neumora Therapeutics, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

San Jose, California
September 11, 2023

Exhibit 107.1

Calculation of Filing Fee Tables

Form S-1
(Form Type)

Neumora Therapeutics, Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price(1)	Fee Rate	Amount of Registration Fee(3)
Fees to be Paid	Equity	Common stock, $0.0001 par value per share	Rule 457(a)	16,916,500	$18.00(2)	$304,497,000(2)	$110.2 per $1,000,000	$33,555.57
Fees Previously Paid	Equity	Common stock, $0.0001 par value per share	Rule 457(o)	—	—	$100,000,000(3)	$110.2 per $1,000,000	$11,020.00
	Total Offering Amounts					$304,497,000		$33,555.57
	Total Fees Previously Paid						$110.2 per $1,000,000	$11,020.00
	Total Fee Offsets							—
	Net Fee Due							$22,535.57

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(a) of the Securities Act of 1933, as amended (the “Securities Act”). Includes 2,206,500 shares that the underwriters have the option to purchase. See “Underwriting.”
(2) Calculated pursuant to Rule 457(a) of the Securities Act, based on an estimate of the proposed maximum aggregate offering price.
(3) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act.