PRELIMINARY PROSPECTUS SUPPLEMENT (TO PROSPECTUS DATED NOVEMBER 15, 2022)

\$100,000,000



Shares of Common Stock

Pre-Funded Warrants to Purchase Up to

Shares of Common Stock

We are offering \$100,000,000 of shares of our common stock and, in lieu of common stock to certain investors that so choose, pre-funded warrants to purchase shares of our common stock, which we refer to as pre-funded warrants. The purchase price of each pre-funded warrant will equal the price per share at which the shares of our common stock are being sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant will be \$0.001 per share. Each pre-funded warrant will be exercisable for one share of common stock. This prospectus supplement also relates to the offering of the shares of our common stock issuable upon the exercise of such pre-funded warrants.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "VYGR". The closing price of our common stock on The Nasdaq Global Select Market on January 3, 2024 was \$10.77 per share. There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on The Nasdaq Global Select Market or any other national securities exchange or nationally recognized trading system.

We have granted the underwriters an option to purchase up to an aggregate of \$15,000,000 of additional shares of our common stock.

Investing in our securities involves risks. See "<u>Risk Factors</u>" beginning on page <u>S-8</u> and in the documents incorporated by reference into this prospectus supplement.

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

	Pre-Funded		
	Per Share	Warrant	Total
Public Offering Price	\$	\$	\$
Underwriting Discounts and Commissions ⁽¹⁾	\$	\$	\$
Proceeds, before expenses, to Voyager Therapeutics, Inc.	\$	\$	\$

⁽¹⁾ We refer you to "Underwriting" beginning on page <u>S-27</u> of this prospectus supplement for additional information regarding total underwriter compensation.

We are a "smaller reporting company" as defined in Rule 12b-2 promulgated under the Securities Exchange Act of 1934, as amended. As a result, we are eligible for reduced public company disclosure requirements. See "Prospectus Supplement Summary—Implications of Being a Smaller Reporting Company."

The underwriters expect to deliver the shares of common stock against payment on or about January , 2024 through the book-entry facilities of The Depository Trust Company. The pre-funded warrants are expected to be delivered on or about January , 2024.

Joint Book-Running Managers

Citigroup

Guggenheim Securities

Book-Running Manager

Oppenheimer & Co.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering and adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus supplement, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Neither we nor the underwriters have authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus supplement, in the accompanying 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 any responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you.

This prospectus supplement, the accompanying prospectus and any such free writing prospectus do not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this prospectus supplement, the accompanying prospectus and any such free writing prospectus in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer or solicitation of an offer in such jurisdiction. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein and in any free writing prospectus that we have authorized for use in connection with this offering is accurate only as of the date of those respective documents. It is important for you to read and consider all information contained in this prospectus supplement and in the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled "Where You Can Find More Information" and "Incorporation by Reference" in this prospectus supplement and in the accompanying prospectus.

Other than in the United States, no action has been taken by us that would permit a public offering of the securities offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The securities offered by this prospectus supplement may not be offered or sold, directly or indirectly, nor may this prospectus supplement 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 supplement and accompanying prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement and accompanying prospectus.

Unless the context otherwise indicates, references in this prospectus supplement and the accompanying prospectus to the "Company," "we," "our" and "us" refer, collectively, to Voyager Therapeutics, Inc., a Delaware corporation, and its consolidated subsidiary.

We also own various U.S. federal trademark registrations applications and unregistered trademarks, including our corporate name and logo. The other trademarks, trade names and service marks appearing in

this prospectus supplement, the accompanying prospectus, and the information incorporated herein and therein are the property of their respective owners. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus supplement, the accompanying prospectus, and the information incorporated herein and therein, including logos, artwork, and other visual displays, may appear without the $^{\circledR}$ or $^{\intercal M}$ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks and trade names.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information contained elsewhere in this prospectus supplement and the accompanying prospectus and in the documents incorporated by reference herein and therein. This summary does not contain all of the information you should consider before investing in our common stock or prefunded warrants. You should read this entire prospectus supplement and the accompanying prospectus carefully, especially the risks of investing in our common stock and pre-funded warrants discussed under "Risk Factors" beginning on page <u>S-8</u> of this prospectus supplement and in the documents incorporated by reference herein, along with our consolidated financial statements and notes to those financial statements and the other information incorporated by reference into this prospectus supplement and the accompanying prospectus.

Overview

We are a biotechnology company whose mission is to leverage the power of human genetics to modify the course of—and ultimately cure—neurological diseases. Our pipeline includes programs for Alzheimer's disease, or AD; amyotrophic lateral sclerosis, or ALS; Parkinson's disease, and multiple other diseases of the central nervous system. Many of our programs are derived from our TRACERTM adeno-associated virus, or AAV, capsid discovery platform, which we have used to generate novel capsids and identify associated receptors to potentially enable high brain penetration with genetic medicines following intravenous dosing. Some of our programs are wholly-owned, and some are advancing with licensees and collaborators including Alexion, AstraZeneca Rare Disease (as successor-in interest to Pfizer, Inc., or Pfizer), or Alexion; Novartis Pharma AG, or Novartis; Neurocrine Biosciences, Inc., or Neurocrine; and Sangamo Therapeutics, Inc., or Sangamo.

We focus on leveraging our expertise in capsid discovery and neuropharmacology to address the delivery hurdles that have constrained the genetic medicine and neurology disciplines, with the goal of either halting or slowing disease progression or reducing symptom severity, therefore providing clinically meaningful impact to patients. We are advancing our own proprietary pipeline of drug candidates for neurological diseases, with a focus on AD. Our wholly-owned prioritized pipeline programs include an antitau antibody for AD and a superoxide dismutase 1, or SOD1, gene therapy for ALS. We identified a lead development candidate for our anti-tau antibody program in the first quarter of 2023, initiated good laboratory practices, or GLP, toxicology studies in the third quarter of 2023, and expect to submit an investigational new drug, or IND, application to the U.S. Food and Drug Administration, or the FDA, for this program in the first half of 2024. We identified a lead development candidate for the SOD1 silencing gene therapy program in the fourth quarter of 2023, and we expect to submit the IND application for our SOD1 silencing gene therapy program in mid-2025. Our proprietary pipeline also includes two early research initiatives to develop gene therapies for the treatment of AD. In the first, we are exploring a product candidate combining a small interfering RNA, or siRNA, -based tau knockdown payload and a capsid produced by our TRACER platform, which we refer to as a TRACER Capsid. In the second, we are exploring a product candidate that combines a vectorized anti-amyloid antibody, for which we have preclinical murine data, and a TRACER Capsid.

We are also working with our collaboration partners on multiple programs. In January 2019 and January 2023, we entered into collaboration and license agreements with Neurocrine. Under our agreements with Neurocrine, we are actively advancing two later preclinical stage programs: a glucocerebrosidase 1, or GBA1, gene therapy program for Parkinson's disease and other GBA1-mediated diseases, and a FXN gene therapy program for Friedreich's ataxia. Pursuant to such agreements, we are also working with Neurocrine on five early-stage programs for the research, development, manufacture and commercialization of gene therapies designed to address central nervous system diseases or conditions associated with rare genetic targets. We have also entered into agreements with licensees including Alexion, Novartis, and Sangamo, to license or to provide options to receive exclusive licenses to certain TRACER Capsids. As described further below, in December 2023, we entered into a license and collaboration agreement with Novartis to provide Novartis certain rights regarding the development of potential gene therapy product candidates for the treatment of spinal muscular atrophy and to collaborate with Novartis to develop gene therapy product candidates for the treatment of Huntington's disease. We expect that our collaborative partners and licensees will submit at least two additional IND applications for our partnered programs and initiate clinical development for the associated programs by the end of 2025.

Our Pipeline

Our pipeline of programs, all of which are in preclinical development, is summarized in the table below:

	Mechanism / Indication		Early Research	Late Research	IND-Enabling	Phase I
쀨	Anti-tau Antibody (VY-TAU01) / Alzheimer's Disea	ase				
WHOLLY-	SOD1 Silencing Gene Therapy (siRNA) / ALS					
MED	Tau Silencing Gene Therapy (siRNA) / Alzheimer's	Disease				
ΜO	Anti-Aβ Gene Therapy (Vectorized Antibody) / Ala	zheimer's Disease				
PARTNERSHIPS (REIMBURSED)	GBA1 Gene Therapy / Parkinson's/Other	Neurocrine (VYGR has 50% co/co option)				
	FXN Gene Therapy / Friedreich's Ataxia	Neurocrine (VYGR has 40% co/co option)				
ART	Five Gene Therapy Programs / Undisclosed Diseases	Neurocrine	Undisclosed			
9.5	Huntington's Gene Therapy / Huntington's Disease	Novartis	Undisclosed			
_ Si	Gene Therapy / Rare Neurological Disease		Alexion, AstraZeneca Rare Disease License			ise
CAPSID	Three Gene Therapy Programs / SMA + CNS Diseases		Novartis Licenses			
	Gene Therapy / Prion Disease		Sangamo License			

Our Platforms

We have expertise in both viral and non-viral approaches to neurogenetic medicine.

Our TRACER (Tropism Redirection of AAV by Cell-type-specific Expression of RNA) capsid discovery platform is a broadly applicable, RNA-based screening platform that enables rapid discovery of AAV capsids with robust penetration of the blood-brain barrier, or BBB, and enhanced central nervous system, or CNS, tropism observed in multiple animal species, including non-human primates, or NHPs. TRACER allows us to identify proprietary AAV capsids, the outer viral protein shells that enclose genetic material that makes up the vector payload. TRACER employs directed evolution to facilitate the selection of AAV capsids with enhanced tissue delivery characteristics, such as more effective delivery across the BBB. The TRACER discovery platform is a broadly applicable, functional RNA-based AAV capsid discovery platform that allows for rapid in vivo evolution of AAV capsids with cell-specific transduction properties in multiple species, including NHPs. We believe that these TRACER Capsids have the potential to significantly enhance the activity and safety of our single dose gene therapy product candidates, which we expect to be delivered with systemic infusions, as compared with conventional capsids. We have leveraged the TRACER discovery platform to generate multiple families of TRACER Capsids with robust CNS tropism following intravenous delivery. We have presented data at scientific conferences demonstrating strong transduction to multiple areas within the brain and activity across multiple animal species. We have entered into agreements with licensees including Alexion, Novartis, and Sangamo, to license or to provide options to receive exclusive licenses to certain of our TRACER Capsids to develop and commercialize AAV gene therapy candidates in specified indications. In September 2022, Pfizer (as predecessor-in-interest to Alexion) exercised one of its options for an exclusive license with respect to a TRACER Capsid in connection with a Pfizer transgene for the development of a potential gene therapy for a rare neurologic disease. In March 2023, Novartis exercised two of its options for exclusive licenses with respect to TRACER Capsids in connection with the development of a potential gene therapy for two undisclosed

We have additional expertise in the discovery and development of monoclonal antibodies as well as in receptor-mediated non-viral delivery to the CNS. We have discovered multiple antibodies as part of the antitau antibody program and other research programs. Some of these programs have been advanced in a vectorized setting, such as our anti-amyloid program, while others have been advanced in a non-vectorized setting, such as the anti-tau antibody program. Separately, we have identified receptors for some of our TRACER Capsid families as well as a ligand for a particular receptor and are conducting experiments to evaluate the potential to leverage our receptors to shuttle non-viral genetic medicines across the BBB.

Recent Developments

Novartis Collaboration

On December 28, 2023, we entered into a license and collaboration agreement with Novartis to (a) provide rights to Novartis with respect to certain proprietary AAV capsids discovered by us and provided to Novartis, or the Voyager Capsids, for use in the research, development, and commercialization by Novartis of AAV gene therapy products and product candidates, comprising such Voyager Capsids and payloads intended for the treatment of spinal muscular atrophy and (b) collaborate to develop AAV gene therapy products and product candidates intended for the treatment of Huntington's disease, in each case, leveraging Voyager Capsids and other intellectual property controlled by us. Under the license and collaboration agreement, Novartis has agreed to pay us an initial upfront payment of \$80.0 million.

In connection with the execution of the license and collaboration agreement with Novartis, we also entered into a stock purchase agreement for the sale and issuance of 2,145,002 shares of common stock to Novartis at a price of \$9.324 per share, for an aggregate purchase price of \$20.0 million and an investor agreement providing for standstill and lock-up restrictions.

Update on VY-TAU01 for the Treatment of Alzheimer's Disease

We plan to submit an IND application for VY-TAU01, our anti-tau antibody product candidate for the treatment of AD, to the FDA in the first half of 2024. The planned Phase 1 clinical trial is designed to assess the safety of VY-TAU01 in a multi-arm dose escalation study, with a single ascending dose arm expected to be conducted in healthy subjects to be initiated in 2024 and a multiple ascending dose arm expected to be conducted in subjects with mild cognitive impairment or early AD to be initiated in 2025. In connection with the planned trial, we also anticipate evaluating positron emission topography scans of subjects from the multiple ascending dose arm for an indication of biological activity of VY-TAU01 in the second half of 2026.

Update on SOD1 Silencing Gene Therapy for the Treatment of SOD1 ALS

We plan to submit an IND application to the FDA in mid-2025 for our gene therapy product candidate designed to deliver a vectorized, highly potent siRNA construct for the treatment of SOD1 ALS and to initiate a Phase 1 clinical trial in subjects with SOD1 ALS for the program as soon as possible thereafter. We expect to evaluate the safety and biological activity of the SOD1 ALS product candidate in this Phase 1 trial.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the "Risk Factors" section of this prospectus supplement immediately following this prospectus supplement summary, in our <u>Annual Report on Form 10-K for the year ended December 31, 2022</u>, and in our other filings with the SEC that we have incorporated by reference in this prospectus supplement and the accompanying prospectus. These risks include the following:

- We have a history of incurring significant losses and anticipate that we will continue to incur
 losses for the foreseeable future and may never achieve or maintain consistent profitability. We
 may not be able to generate sufficient revenue from the commercialization of our product
 candidates and may never be consistently profitable.
- We will need to raise additional funding, which may not be available on acceptable terms, or at all.
 Failure to obtain this necessary capital when needed may force us to delay, limit or terminate certain of our product development efforts or other operations.
- Our AAV gene therapy and other biological therapy product candidates are based on a proprietary technology and, in several disease areas, unvalidated treatment approaches, which make it difficult and potentially infeasible to predict the duration and cost of development of, and subsequently obtaining regulatory approval for, our product candidates.
- Regulatory requirements governing gene and cell therapy products have changed frequently and
 may continue to change in the future. Such requirements may lengthen the regulatory review
 process,

- require us to modify current studies or perform additional studies or increase our development costs, which in turn may force us to delay, limit, or terminate certain of our programs.
- We are early in our development efforts. All of our active product candidates are currently in
 preclinical development. We may encounter substantial delays or difficulties in commencement,
 enrollment or completion of our preclinical studies or clinical trials, or we may fail to demonstrate
 safety and efficacy to the satisfaction of applicable regulatory authorities, any of which could
 prevent us from commercializing our current and future product candidates on a timely basis, if at
 all
- Our product candidates or the process for administering our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit their commercial potential or result in significant negative consequences following any potential marketing approval.
- We face significant competition in an environment of rapid technological change and the
 possibility that our competitors may achieve regulatory approval before us or develop therapies
 that are more advanced or effective than ours, which may harm our business and financial
 condition, and our ability to successfully market or commercialize our product candidates.
- To date, all of our revenue has been derived from our ongoing collaborations with Neurocrine and Novartis, from our ongoing licensing arrangements with Alexion, Novartis, and Sangamo and from our prior collaborations with Sanofi Genzyme Corporation, AbbVie Biotechnology Ltd and AbbVie Ireland Unlimited Company. If any ongoing or future collaboration, option and license, or license agreements were to be terminated, our business financial condition, results of operations and prospects could be harmed.
- Our gene therapies are novel, complex and difficult to manufacture. We could experience
 manufacturing problems that result in delays in the development or commercialization of our
 product candidates or otherwise harm our business.
- Our future success depends on our ability to retain key members of our management and research and development teams, and to attract, retain and motivate qualified personnel.
- Our gene therapy and vectorized antibody approaches utilize vectors derived from viruses that are
 selectively engineered, which may be perceived as unsafe or may result in unforeseen adverse
 events. Negative public opinion and increased regulatory scrutiny of gene therapy may damage
 public perception of the safety of our product candidates and adversely affect our ability to
 conduct our business or obtain regulatory approvals for our product candidates.
- If we are unable to obtain and maintain patent protection for our products and technology, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, and our ability to successfully commercialize our products and technology may be adversely affected.

Our Corporate Information

We were incorporated under the laws of the state of Delaware in June 2013. Our principal executive offices are located at 75 Hayden Avenue, Lexington, MA 02421, and our telephone number is (857) 259-5340. Our website address is www.voyagertherapeutics.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus supplement or the accompanying prospectus. We have included our website address in this prospectus supplement and the accompanying prospectus solely as an inactive textual reference. You should not rely on any such information in deciding whether to purchase our securities.

Implications of Being a Smaller Reporting Company
We are a "smaller reporting company" as defined in Rule 12b-2 promulgated under the Securities Exchange Act of 1934, as amended, or the Exchange Act. We would cease to qualify as a smaller reporting company if we have (1) a non-affiliate public float in excess of \$250 million and annual revenues in excess of \$100 million during our last fiscal year, or (2) a non-affiliate public float in excess of \$700 million, in each case determined on an annual basis as of the last business day of our second quarter. As a smaller reporting company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not smaller reporting companies.

THE OFFERING

Common stock offered by us

Pre-funded warrants offered by us

Option to purchase additional shares

\$100,000,000 of shares.

We are also offering, in lieu of common stock to investors who so choose, pre-funded warrants to purchase up to shares of our common stock. The purchase price of each pre-funded warrant will equal the price per share at which the shares of our common stock are being sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant will equal \$0.001 per share. Each pre-funded warrant will be exercisable for one share of common stock from the date of issuance until such pre-funded warrant is exercised in full, subject to a beneficial ownership limitation. See the "Description of Pre-

This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of such prefunded warrants.

Funded Warrants" section of this prospectus supplement.

We have granted the underwriters an option to purchase up to from us at the public offering price, less underwriting

an additional \$15,000,000 of shares of our common stock discounts and commissions. The underwriters can exercise this option, in whole or in part, at any time within 30 days from the date of this prospectus supplement.

Common stock to be outstanding immediately following this offering

Use of proceeds

shares if the underwriters exercise shares (or in full their option to purchase additional shares) (in each case, excluding shares of common stock issuable upon exercise of the pre-funded warrants).

We estimate that the net proceeds to us from this offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$ million (or approximately \$ million if the underwriters exercise in full their option to purchase additional shares).

We plan to use the net proceeds from this offering, together with our existing cash, cash equivalents and marketable securities and the \$20.0 million we received in January 2024 as consideration for the purchase of shares of our common stock and the additional \$80.0 million upfront payment we anticipate receiving from Novartis in connection with our entry into a strategic collaboration and a stock purchase agreement with Novartis in December 2023, to advance our anti-tau antibody program for the treatment of Alzheimer's disease and our SOD1 silencing gene therapy program for the treatment of ALS into clinical development; to advance our tau silencing gene therapy program for the treatment of Alzheimer's disease and our anti-amyloid gene therapy program for the treatment of Alzheimer's disease in preclinical development; to support our other preclinical development programs; and for working capital and other general corporate purposes.

Risk factors

See the "Use of Proceeds" section in this prospectus supplement for more information.

Your investment involves a high degree of risk. You should read the "Risk Factors" section of this prospectus supplement, as well as those risk factors that are incorporated by reference in this prospectus supplement and the accompanying prospectus, for a discussion of factors to consider carefully before deciding to invest in shares of our common stock or pre-funded warrants.

There is no established public trading market for the prefunded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on The Nasdaq Global Select Market or any other national securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants will be limited. See the "Description of Pre-Funded Warrants" section of this prospectus supplement.

Nasdaq Global Select Market symbol

"VYGR"

The number of shares of our common stock to be outstanding after this offering, unless otherwise indicated, is based on 44,001,612 shares of our common stock outstanding as of November 30, 2023, plus 2,145,002 shares of our common stock issued on January 3, 2024, pursuant to a stock purchase agreement dated December 28, 2023, and excludes:

- shares of our common stock issuable upon exercise of the pre-funded warrants that we are offering in this offering;
- 7,796,685 shares of our common stock issuable upon the exercise of stock options outstanding as of November 30, 2023, at a weighted-average exercise price of \$8.41 per share;
- 1,510,563 shares of our common stock issuable upon the vesting and settlement of restricted stock units, or RSUs, outstanding as of November 30, 2023;
- 3,063,768 additional shares of our common stock that are available for future issuance under our 2015 Stock Option and Incentive Plan as of November 30, 2023; and
- 2,208,161 shares of our common stock that are available for future issuance under our 2015 Employee Stock Purchase Plan as of November 30, 2023.

Unless otherwise indicated, all information in this prospectus supplement assumes:

- no exercise of the outstanding options described above;
- no vesting and settlement of the outstanding RSUs described above;
- no exercise of the pre-funded warrants that we are offering in this offering; and
- no exercise by the underwriters of their option to purchase additional shares.

In addition, the disclosure above does not reflect the \$75.0 million of shares of our common stock that remained available for sale at January 3, 2024 under our common stock sales agreement with Cowen and Company, LLC, pursuant to which we may sell from time to time our common stock through an "at-the-market" equity offering program, subject to the lock-up provisions described in the "Underwriting" section of this prospectus supplement.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks and uncertainties described below, in our <u>Annual Report on Form 10-K for the year ended December 31, 2022</u>, and in our other filings with the SEC that we have incorporated by reference in this prospectus supplement and the accompanying prospectus, together with all of the other information contained in this prospectus supplement, the accompanying prospectus and in our filings with the SEC that we have incorporated by reference in this prospectus supplement and the accompanying prospectus. If any of these risks actually occur, our business, prospects, operating results and financial condition could suffer materially. In such event, the trading price of our common stock could decline and you might lose all or part of your investment

Risks Related to this Offering and Ownership of Our Securities

If you purchase shares of our common stock or pre-funded warrants in this offering, you will suffer immediate dilution of your investment.

The prices of our common stock and pre-funded warrants in this offering are substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock or pre-funded warrants in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. To the extent we issue additional shares, whether upon the exercise of outstanding options or pre-funded warrants, the settlement of outstanding RSUs, sales are made pursuant to our equity sales agreement with Cowen and Company, LLC, or otherwise, you will incur further dilution. After giving effect to our issuance and sale of shares of our common stock per preand pre-funded warrants in this offering at a public offering price of \$ per share and \$ funded warrant (and excluding shares of common stock issued or any resulting accounting associated with the pre-funded warrants), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, you will experience immediate dilution of \$ per share, representing the difference between our pro forma as adjusted net tangible book value per share after giving effect to this offering and the public offering price. Furthermore, if the pre-funded warrants are exercised, you will incur further dilution. See the section titled "Dilution" below for a more detailed illustration of the dilution you would incur if you participate in this offering.

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

Shares of common stock that are either subject to outstanding options or RSUs or reserved for future issuance under our stock incentive plans will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules and Rule 144 under the Securities Act of 1933, as amended, or the Securities Act. We have also filed registration statements on Form S-8 permitting shares of common stock issued on exercise of options or the settlement of RSUs to be freely sold in the public market. We also have an effective registration statement on Form S-3 for the sale of up to \$300.0 million in aggregate of an indeterminate number of shares of common stock and preferred stock, an indeterminate principal amount of debt securities, and an indeterminate number of depositary shares, subscription rights, warrants, purchase contract and units, of which we have reserved \$75.0 million for the offering, issuance, and sale of common stock through at-the-market offerings or negotiated transactions under a sales agreement we entered into with Cowen and Company, LLC, on November 8, 2022. If any of these additional securities are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

The price of our common stock has been and may in the future be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common stock or pre-funded warrants in this offering.

The price of our common stock is likely to be volatile and may fluctuate substantially. From January 1, 2023 through December 31, 2023, the sales price of our common stock ranged from a high of \$14.34 to a low of \$5.36 on the Nasdaq Global Select Market. As a result of this volatility, our stockholders may not be able to sell their common stock at or above the price at which they purchased it. The market price for our common stock may be influenced by many factors, including:

• our success in commercializing any product candidates for which we obtain marketing approval;

- regulatory action and results of clinical trials of our product candidates or those of our competitors;
- the success of competitive products or technologies;
- the results of clinical trials of our product candidates;
- the results of clinical trials of product candidates of our competitors;
- the commencement, termination, and success of our collaborations, including the ability or willingness of our collaboration partners to fulfill their obligations to us;
- regulatory or legal developments in the United States and other countries;
- · developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to any of our product candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates
 or technologies, the cost of commercializing such product candidates, and the cost of development
 of any such product candidates or technologies;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or those of companies that are perceived to be similar to us;
- the ability to secure third-party reimbursement for our product candidates;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- · general economic, industry and market conditions; and
- other factors described in this "Risk Factors" section and elsewhere in this prospectus supplement, the accompanying prospectus, and the documents incorporated herein and therein.

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

In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation often has been instituted against that company. We also may face securities class-action litigation if we cannot obtain regulatory approvals for or if we otherwise fail to commercialize our product candidates. We and certain of our current and former officers and directors were previously named as defendants in a purported class action lawsuit. This proceeding and other similar litigation, if instituted against us, could cause us to incur substantial costs to defend such claims and divert management's attention and resources, which could seriously harm our business, financial condition, results of operations and prospects.

We have broad discretion in how we apply our available funds, including the net proceeds from this offering, and may not use them effectively, which could affect our results of operations and cause our stock price to decline.

Our management will have broad discretion in the application of our existing cash, cash equivalents and marketable securities and the net proceeds from this offering and could spend these funds in ways that do not improve our results of operations or enhance the value of our securities. The failure by our management to apply these funds effectively could result in financial losses that could cause the price of our securities to decline and delay the development of our product candidates and preclinical programs. Pending their use, we may invest our available funds including the net proceeds from this offering in a manner that does not produce income or that loses value.

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

We are a "smaller reporting company," as defined in Rule 12b-2 promulgated under the Exchange Act. We would cease to qualify as a smaller reporting company if we have (i) a non-affiliate public float in excess of \$250 million and annual revenues in excess of \$100 million during our last fiscal year, or (ii) a non-affiliate public float in excess of \$700 million, in each case determined on an annual basis as of the last business day of our second quarter. As a smaller reporting company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not smaller reporting companies. These exemptions include:

- being permitted to provide only two years of audited consolidated financial statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- · reduced disclosure obligations regarding executive compensation; and
- not being required to furnish a stock performance graph in our annual report.

We expect to continue taking advantage of some or all of the available exemptions until we cease to be a smaller reporting company. We may cease to qualify as a smaller reporting company as early as June 30, 2024, which would require us to comply with disclosure requirements that are applicable to other public companies that are not smaller reporting companies following the filing of our Annual Report on Form 10-K for the year ending December 31, 2024, and any portions of our definitive proxy statement relating to our 2025 Annual Meeting of Stockholders incorporated by reference therein. We cannot predict whether investors will find our securities less attractive if we rely on these exemptions. If some investors find our securities less attractive as a result, there may be a less active trading market for our securities and our stock price may be more volatile.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be our stockholders' sole source of gain.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements may preclude us from paying dividends. As a result, capital appreciation, if any, of our securities will be the sole source of gain for our stockholders for the foreseeable future.

There is no public market for the pre-funded warrants being offered in this offering.

There is no public trading market for the pre-funded warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to list the pre-funded warrants on The Nasdaq Global Select Market or any other national securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants will be limited.

We will not receive any additional funds upon the exercise of the pre-funded warrants.

Each pre-funded warrant will be exercisable from the date of issuance until the date the warrant is exercised in full and will be exercisable only by means of a cashless exercise, meaning that the holder would not pay a cash purchase price upon exercise, but instead would receive upon such exercise the net number of shares of our common stock determined according to the formula set forth in the pre-funded warrant. Accordingly, we will not receive any additional funds upon the exercise of the pre-funded warrants.

Except for the right to participate in certain dividends and distributions, holders of the pre-funded warrants will have no rights as common stockholders until such holders exercise their pre-funded warrants and acquire our common stock.

Except by virtue of such holder's ownership of shares of our common stock, and except for the right to participate in certain dividends and distributions, the holder of a pre-funded warrant will not have the

rights or privileges of a holder of our common stock, including any voting rights, until holder exercises the pre-funded warrant. Upon exercise of the pre-funded warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Significant holders or beneficial holders of our common stock may not be permitted to exercise pre-funded warrants that they hold.

A holder of a pre-funded warrant will not be entitled to exercise any portion of any pre-funded warrant which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, or (ii) the combined voting power of our securities beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. Such percentage may be increased or decreased by the holder of the pre-funded warrant to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from the holder to us. As a result, you may not be able to exercise your pre-funded warrants for shares of our common stock at a time when it would be financially beneficial for you to do so. In such circumstance you could seek to sell your pre-funded warrants to realize value, but you may be unable to do so in the absence of an established trading market for the pre-funded warrants.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS AND INDUSTRY AND MARKET DATA

This prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein include "forward-looking statements" within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words "anticipate," "believe," "estimate," "expect," "intend," "may," "might," "plan," "predict," "project," "target," "potential," "contemplate," "anticipate," "goals," "will," "would," "could," "should," "continue," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein include, among other things, statements about:

- our plans to develop and commercialize our product candidates based on AAV gene therapy and our proprietary antibodies;
- our ability to continue to develop our proprietary gene therapy platform technologies, including our TRACERTM discovery platform and our vectorized antibody platform, and our proprietary antibodies;
- · our ability to identify and optimize product candidates and proprietary AAV capsids;
- our strategic collaborations and licensing agreements with, and funding from, our collaboration partners Neurocrine and Novartis, and our licensees Alexion and Novartis;
- our ongoing and planned preclinical development efforts, related timelines and studies;
- our ability to enter into future collaborations, strategic alliances, or option and license arrangements;
- the timing of and our ability to submit applications and obtain and maintain regulatory approvals
 for our product candidates, including the ability to submit IND applications for our programs;
- our estimates regarding revenue, expenses, contingent liabilities, existing cash resources and capital requirements;
- our intellectual property position and our ability to obtain, maintain and enforce intellectual property protection for our proprietary assets;
- our estimates regarding the size of the potential markets for our product candidates and our ability to serve those markets:
- our need for additional funding and our plans and ability to raise additional capital, including through equity offerings, debt financings, collaborations, strategic alliances, and option and license arrangements;
- our competitive position and the success of competing products that are or might become available for the indications that we are pursuing;
- the impact of government laws and regulations including in the United States, the European Union, and other important geographies such as Japan;
- our ability to control costs and prioritize our product candidate pipeline and platform development objectives successfully in connection with our strategic initiatives; and
- our expectations related to the use of proceeds from this offering.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements. You should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and operating results. We have included important factors in the cautionary statements included in this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein, particularly in the "Risk Factors" sections of these documents, that could cause actual future results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, strategic collaborations, licenses, joint ventures or investments we may make or enter into.

You should read this prospectus supplement, the accompanying prospectus, the documents that we have incorporated by reference herein and therein and the documents we have filed as exhibits to the registration statement of which this prospectus supplement is a part completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements whether as a result of new information, future events or otherwise, except as required by applicable law.

We obtained the statistical and other industry and market data in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein from our own internal estimates and research, as well as from industry and general publications and research, surveys, studies and trials conducted by third parties. Some data is also based on our good faith estimates, which are derived from management's knowledge of the industry and independent sources. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, while we believe the market opportunity information included in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference is reliable and is based upon reasonable assumptions, such data involves risks and uncertainties and are subject to change based on various factors, including those discussed under "Risk Factors" and in the documents incorporated by reference herein and therein. In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus supplement, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of \$100,000,000 of shares of our common stock and pre-funded warrants to purchase shares of our common stock in this offering will be approximately \$\\$\ \million\$, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their option to purchase additional shares of common stock in full, we estimate that the net proceeds from this offering will be approximately \$\\$\ \million\$, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We will not receive any additional proceeds from the exercise of pre-funded warrants.

As of September 30, 2023, we had cash, cash equivalents and marketable securities of \$252.9 million. We are currently completing our reports of our operational and financial results for the year ended December 31, 2023. However, we estimate our preliminary unaudited cash and cash equivalents and marketable securities to be approximately \$231 million as of December 31, 2023. This estimate is based on preliminary and unaudited information and management's estimate as of the date of this prospectus supplement and is subject to completion of our customary financial closing procedures. Our independent registered public accounting firm has not conducted an audit or review of, and does not express an opinion or any other form of assurance with respect to, this estimate.

We plan to use the net proceeds from this offering, together with our existing cash, cash equivalents and marketable securities and the \$20.0 million we received in January 2024 as consideration for the purchase of shares of our common stock and the additional \$80.0 million upfront payment we anticipate receiving from Novartis in connection with our entry into a strategic collaboration and a stock purchase agreement with Novartis in December 2023, to advance our anti-tau antibody program for the treatment of Alzheimer's disease and our SOD1 silencing gene therapy program for the treatment of ALS into clinical development; to advance our tau silencing gene therapy program for the treatment of Alzheimer's disease and our anti-amyloid gene therapy program for the treatment of Alzheimer's disease in preclinical development; to support our other preclinical development programs; and for working capital and other general corporate purposes.

This expected use of net proceeds from this offering, our existing cash, cash equivalents and marketable securities, and our payments from Novartis represent our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from preclinical studies and clinical trials, as well as amounts received in connection with current and future collaborations with third parties, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of our current cash, cash equivalents and marketable securities and the net proceeds from this offering.

Based upon our current operating plan, we estimate that the net proceeds from this offering, together with our existing cash, cash equivalents and marketable securities, amounts expected to be received as reimbursement for development costs under our collaborations with Neurocrine and Novartis, and the \$20.0 million we received as consideration for the purchase of shares of our common stock and the \$80.0 million upfront payment we anticipate receiving from Novartis, will enable us to fund our operating expenses and capital expenditure requirements into 2027. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. See the "Risk Factors" section of this prospectus supplement and the documents incorporated by reference for a discussion of the risks affecting our business that could have an adverse effect on our available capital resources. We do not expect that our existing cash, cash equivalents and marketable securities and net proceeds from this offering alone will be sufficient to enable us to fund the completion of the development of any of our product candidates.

We may also use a portion of the net proceeds from this offering for the acquisition of, or investment in, complementary businesses or the acquisition of, investment in, or in-licensing of complementary products or technologies, although we have no present commitments or agreements for any specific acquisitions, investments, or in-licensing transactions. Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to fund the development and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay cash dividends will be made at the discretion of our board of directors and will depend on restrictions and other factors our board of directors may deem relevant. You should not purchase our common stock or pre-funded warrants with the expectation of receiving cash dividends.

CAPITALIZATION

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

- on an actual basis;
- on a pro forma basis to give effect to (i) the issuance and sale of 2,145,002 shares of our common stock issued to Novartis on January 3, 2024, for an aggregate purchase price of \$20.0 million in connection with a private placement pursuant to a stock purchase agreement dated December 28, 2023, and (ii) our anticipated receipt of an upfront payment of \$80.0 million from Novartis in connection with our entry into a license and collaboration agreement with Novartis dated December 28, 2023; and
- on a pro forma as adjusted basis to give effect to (i) the pro forma adjustments described above; (ii) the issuance and sale of of shares of our common stock in this offering at a public offering price of \$ per share; and (iii) the issuance and sale of pre-funded warrants to purchase up to shares of our common stock at the public offering price per share minus \$0.001, in each of cases (ii) and (iii), after deducting underwriting discounts and commissions and estimated offering expenses payable by us (and assuming no exercise of the pre-funded warrants offered hereby and that the pre-funded warrants are classified and accounted for as equity).

You should read the following table together with our consolidated financial statements and related notes to those statements and the "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our <u>Annual Report on Form 10-K for the year ended December 31, 2022</u>, and our <u>Quarterly Report on Form 10-Q for the nine months ended September 30, 2023</u>, which are incorporated by reference into this prospectus supplement.

	As of September 30, 2023		
	Actual	Pro Forma (unaudited) (in thousands)	Pro Forma As Adjusted
Cash, cash equivalents and marketable securities	\$ 252,936	\$ 352,936 ⁽¹⁾	\$
Preferred stock, par value \$0.001 per share; 5,000,000 shares authorized, no shares issued or outstanding, actual, pro forma and pro forma as adjusted			
Common stock, \$0.001 par value: 120,000,000 shares authorized, actual, pro forma and pro forma as adjusted; 43,909,161 shares issued and outstanding, actual; 46,054,163 shares issued and outstanding, pro forma; shares issued and outstanding, pro forma as adjusted	44	46	
Additional paid-in capital	494,001	512,896 ⁽¹⁾	
Accumulated other comprehensive loss	(248)	(248)	
Accumulated deficit	(317,577)	(317,577)	
Total stockholders' equity	176,220	195,117	
Total Capitalization	\$ 176,220	\$ 195,117	\$

⁽¹⁾ Increase in pro forma additional paid-in capital reflects the difference between the closing price of the Company's common stock of \$8.81 on December 28, 2023, and the par value of a share of our common stock, for each share of common stock Novartis agreed to purchase on such date in accordance with the stock purchase agreement. The Company has allocated the difference between the price which Novartis agreed to pay of \$9.324 and the closing price of \$8.81 on December 28, 2023, for each share of common stock Novartis agreed to purchase, to deferred revenue and accordingly has reflected such amount in its cash and cash equivalents and deferred revenue line items in its financial statements.

The number of shares of our common stock in the above table is based on 43,909,161 shares of our common stock outstanding as of September 30, 2023, and excludes:

- shares of common stock issuable upon exercise of the pre-funded warrants being offered by us in this offering;
- 7,745,593 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2023, at a weighted average exercise price of \$8.42 per share;
- 1,312,727 shares of our common stock issuable upon the vesting and settlement of RSUs outstanding as of September 30, 2023;
- 3,178,593 additional shares of our common stock available for future issuance under our 2015 Stock Option and Incentive Plan as of September 30, 2023; and
- 2,208,161 shares of our common stock available for future issuance under our 2015 Employee Stock Purchase Plan as of September 30, 2023.

The pro forma as adjusted information discussed above will be based on the public offering price, the number of shares of common stock and pre-funded warrants to purchase shares of common stock and other terms of this offering determined at the pricing of this offering.

DILUTION

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

Our net tangible book value as of September 30, 2023, was \$176.2 million, or \$4.01 per share of our common stock. Our net tangible book value is the amount of our total tangible assets less our total liabilities. Net tangible book value per share represents net tangible book value divided by the 43,909,161 shares of our common stock outstanding as of September 30, 2023.

Our pro forma net tangible book value as of September 30, 2023 was \$195.1 million, or \$4.24 per share of our common stock. Our pro forma net tangible book value is the amount of our total tangible assets less our total liabilities, after giving effect to (i) the issuance and sale of 2,145,002 shares of our common stock issued to Novartis on January 3, 2024, for an aggregate purchase price of \$20.0 million in connection with a private placement pursuant to a stock purchase agreement dated December 28, 2023, and (ii) our anticipated receipt of an upfront payment of \$80.0 million from Novartis in connection with our entry into a license and collaboration agreement with Novartis dated December 28, 2023. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the 46,054,163 shares of our common stock outstanding as of September 30, 2023, on a pro forma basis, based on 43,909,161 shares of our common stock outstanding as of September 30, 2023, and after giving effect to the pro forma adjustments described above.

After giving further effect to our issuance and sale of shares of our common stock and prefunded warrants to purchase up to shares of our common stock in this offering at a public offering price of \$ per share of common stock and \$ per pre-funded warrant (which will equal the price per share at which shares of our common stock are being sold to the public in this offering, minus the \$0.001 per share exercise price of each such pre-funded warrant) (excluding shares of common stock issuable upon exercise of the pre-funded warrants or any resulting accounting associated with the exercise of the pre-funded warrants), and after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30. 2023, would have been \$ per share. This represents an immediate increase in million, or \$ pro forma as adjusted net tangible book value per share of \$ to existing stockholders and immediate dilution of \$ in pro forma as adjusted net tangible book value per share to new investors purchasing shares of our common stock or pre-funded warrants in this offering. Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the public offering price per share paid by new investors. The following table illustrates this dilution on a per share basis:

Public offering price per share		\$
Net tangible book value per share as of September 30, 2023	\$4.01	
Increase in net tangible book value per share attributable to pro forma adjustments described above	\$0.23	
Pro forma net tangible book value per share as of September 30, 2023	\$4.24	
Increase in pro forma net tangible book value per share attributable to new investors purchasing shares of our common stock or pre-funded warrants in		
this offering	\$	
Pro forma as adjusted net tangible book value per share of our common stock or pre-funded warrants immediately after this offering		\$
Dilution per share to new investors purchasing shares of our common stock or pre-funded warrants in this offering		\$

If the underwriters exercise their option to purchase additional shares of our common stock in full at the public offering price of \$ per share, the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering would be \$ per share, representing an

increase to existing stockholders of \$ per share, and an immediate dilution of \$ to new investors in this offering.

The table and calculations above exclude the following:

- shares of common stock issuable upon exercise of the pre-funded warrants being offered by us in this offering;
- 7,745,593 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2023, at a weighted average exercise price of \$8.42 per share;
- 1,312,727 shares of our common stock issuable upon the vesting and settlement of RSUs outstanding as of September 30, 2023;
- 3,178,593 additional shares of our common stock available for future issuance under our 2015
 Stock Option and Incentive Plan as of September 30, 2023; and
- 2,208,161 shares of our common stock available for future issuance under our 2015 Employee Stock Purchase Plan as of September 30, 2023.

If any additional shares are issued, including in connection with the exercise of options, the vesting and settlement of RSUs, or pursuant to our equity sales agreement with Cowen and Company, LLC, you will experience further dilution.

The pro forma as adjusted information discussed above will be based on the public offering price, the number of shares and other terms of this offering determined at the pricing of this offering.

DESCRIPTION OF PRE-FUNDED WARRANTS

The following is a brief summary of certain terms and conditions of the pre-funded warrants being offered in this offering. The following description is subject in all respects to the provisions contained in the pre-funded warrants.

Form

The pre-funded warrants will be issued as individual warrant agreements to the investors that choose to purchase pre-funded warrants in lieu of common stock. The form of pre-funded warrant will be filed as an exhibit to a Current Report on Form 8-K that we expect to file with the SEC.

Term

Each pre-funded warrant will expire on the date the warrant is exercised in full.

Exercisability

The pre-funded warrants are exercisable at any time after their original issuance. The pre-funded warrants will be exercisable solely by means of a cashless exercise at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice, in which case the holder would receive upon such cashless exercise the net number of shares of our common stock determined according to the formula set forth in the pre-funded warrant. No fractional shares of our common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the last trade price of our common stock on the exercise date.

Exercise Limitations

We may not effect the exercise of any pre-funded warrant, and a holder will not be entitled to exercise any portion of any pre-funded warrant that, upon giving effect to or immediately prior to such exercise, would cause: (1) the aggregate number of shares of our common stock beneficially owned by such holder (together with its affiliates) to exceed 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise; or (2) the combined voting power of our securities beneficially owned by such holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of our securities outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. However, any holder of a pre-funded warrant may increase or decrease such percentage to any other percentage not in excess of 19.99% provided that any such increase will not be effective until the 61st day after notice from the holder is delivered to us.

Exercise Price

The exercise price of each pre-funded warrant will be \$0.001 per share. The exercise price of the pre-funded warrants and the number of shares of our common stock issuable upon exercise of the pre-funded warrants are subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock, as well as upon any distribution of assets, including cash, stock or other property, to our stockholders. The exercise price of the pre-funded warrants will not be adjusted below the par value of our common stock.

Transferability

Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent.

Exchange Listing

There is no established public trading market for the pre-funded warrants, and we do not expect a market to develop. We do not intend to list the pre-funded warrants on The Nasdaq Global Select Market, any other national securities exchange or any other nationally recognized trading system.

Fundamental Transactions

Upon the consummation of a fundamental transaction (as described in the pre-funded warrants, and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our assets, our consolidation or merger with or into another person in which we are not the surviving entity, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power of our outstanding common stock), the holders of the pre-funded warrants will be entitled to receive, upon exercise of the pre-funded warrants, the same kind and amount of securities, cash or other property that such holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction, without regard to any limitations on exercise contained in the pre-funded warrants. Notwithstanding the foregoing, in the event of a fundamental transaction where the consideration consists solely of cash, solely of marketable securities or a combination of cash and marketable securities, then each pre-funded warrant shall automatically be deemed to be exercised in full in a cashless exercise effective immediately prior to and contingent upon the consummation of such fundamental transaction.

No Rights as a Stockholder

Except by virtue of such holder's ownership of shares of our common stock, and except for the right to participate in certain dividends and distributions, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until such holder receives shares of our common stock upon the due exercise of a pre-funded warrant.

MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK AND PRE-FUNDED WARRANTS

The following is a discussion of the material U.S. federal income and estate tax considerations applicable to non-U.S. holders with respect to their ownership and disposition of shares of our common stock and pre-funded warrants. This discussion is for informational purposes only and is not tax advice. Accordingly, all prospective non-U.S. holders of our common stock and pre-funded warrants should consult their own tax advisors with respect to the U.S. federal, state, local and non-U.S. tax consequences of the purchase, ownership and disposition of our common stock and pre-funded warrants. For purposes of this discussion, a "non-U.S. holder" means a beneficial owner (other than a partnership or other entity or arrangement classified as a partnership for U.S. federal income tax purposes) of our common stock or pre-funded warrants who is not for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation or any other organization taxable as a corporation for U.S. federal income tax purposes, created or organized in the United States or under the laws of the United States or of any state thereof or the District of Columbia:
- an estate, the income of which is subject to U.S. federal income taxation regardless of its source;
- a trust if (1) a U.S. court is able to exercise primary supervision over the trust's administration and one or more U.S. persons has the authority to control all of the trust's substantial decisions or (2) the trust has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a U.S. person.

This discussion is based on current provisions of the U.S. Internal Revenue Code of 1986, as amended, which we refer to as the Code, existing and proposed U.S. Treasury Regulations promulgated thereunder, current administrative rulings and judicial decisions, all as in effect as of the date of this prospectus supplement, and all of which are subject to change or to differing interpretation, possibly with retroactive effect. Any change could alter the tax consequences to non-U.S. holders of our common stock or pre-funded warrants described in this prospectus supplement. We have not requested a ruling from the Internal Revenue Service, or the IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will not challenge one or more of the tax consequences described herein or that any such challenge would not be sustained by a court. We assume in this discussion that a non-U.S. holder holds our common stock or pre-funded warrants as capital assets (generally, property held for investment).

This discussion does not address all aspects of U.S. federal income and estate taxation that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of U.S. state, local or non-U.S. taxation, the alternative minimum tax, or the Medicare tax on net investment income. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder of our common stock or pre-funded warrants and does not address the special tax rules applicable to particular non-U.S. holders, such as:

- insurance companies;
- tax-exempt organizations or governmental organizations;
- banks, investment funds and other financial institutions;
- brokers or dealers in securities:
- "qualified foreign pension funds" as defined in Section 897(1)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds;
- controlled foreign corporations;
- · passive foreign investment companies;
- corporations that accumulate earnings to avoid U.S. federal income tax;

- persons that hold our common stock or pre-funded warrants as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment;
- persons who acquired our common stock or pre-funded warrants pursuant to the exercise of any
 employee stock option or otherwise as compensation; and
- certain U.S. expatriates and certain former citizens or long-term residents of the United States.

In addition, this discussion does not address the tax treatment of partnerships or persons who hold our common stock or pre-funded warrants through partnerships or other entities or arrangements classified as partnerships for U.S. federal income tax purposes. If an entity or arrangement that is classified as a partnership for U.S. federal income tax purposes holds our common stock or pre-funded warrants, the U.S. federal income tax treatment of the partnership and the partners thereof generally will depend on the status of the partner and the activities of the partnership. A partner in a partnership or other pass-through entity that will hold our common stock or pre-funded warrants should consult his, her or its own tax advisor regarding the tax consequences of acquiring, holding and disposing of our common stock or pre-funded warrants through a partnership or other pass-through entity, as applicable.

Treatment of Pre-Funded Warrants

Although it is not entirely free from doubt, a pre-funded warrant should be treated as a share of our common stock for U.S. federal income tax purposes and a holder of pre-funded warrants should generally be taxed in the same manner as a holder of shares of common stock as described below. Accordingly, upon exercise, the holding period of a pre-funded warrant should carry over to the share of common stock received. Similarly, the tax basis of the pre-funded warrant should carry over to the share of common stock received upon exercise, increased by the exercise price of the pre-funded warrant. The balance of this discussion generally assumes that the characterization described above is respected for U.S. federal income tax purposes.

Each holder should consult his, her or its own tax advisor regarding the risks associated with the acquisition of pre-funded warrants pursuant to this offering (including potential alternative characterizations).

Distributions on Our Common Stock or Pre-Funded Warrants

As discussed under "Dividend Policy" above, we do not expect to make cash dividends to holders of our common stock or pre-funded warrants in the foreseeable future. Distributions, if any, on our common stock or pre-funded warrants to a non-U.S. holder generally 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. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock or pre-funded warrant. Any remaining excess will be treated as capital gain, subject to the tax treatment described below in "Gain on Sale, Exchange or Other Taxable Disposition of Our Common Stock or Pre-Funded Warrants." Any such distributions will also be subject to the discussion below under the section titled "FATCA."

Subject to the discussion below regarding effectively connected income and the discussions below under "Backup Withholding and Information Reporting" and "FATCA," dividends paid to a non-U.S. holder generally will be subject to withholding of U.S. federal income tax at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

Dividends that are treated as effectively connected with a trade or business conducted by a non-U.S. holder within the United States and, if an applicable income tax treaty so provides, that are attributable to a permanent establishment or a fixed base maintained by the non-U.S. holder within the United States, are generally exempt from the 30% withholding tax if the non-U.S. holder satisfies applicable certification and disclosure requirements (generally including provision of a valid IRS Form W-8ECI (or applicable successor form) certifying that the dividends are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States). However, such U.S. effectively connected income, net of specified deductions and credits, is generally taxed at the same U.S. federal income tax rates applicable to United States

persons (as defined in the Code). Any U.S. effectively connected income received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence.

A non-U.S. holder of our common stock or pre-funded warrants who claims the benefit of an applicable income tax treaty between the United States and such holder's country of residence generally will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or successor form) and satisfy applicable certification and other requirements. Non-U.S. holders are urged to consult their tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit of any excess amounts withheld by timely filing the required information with the IRS.

Gain on Sale, Exchange or Other Taxable Disposition of Our Common Stock or Pre-Funded Warrants

Subject to the discussions below under "Backup Withholding and Information Reporting" and "FATCA," a non-U.S. holder will generally not be subject to any U.S. federal income tax on any gain realized upon such holder's sale, exchange or other taxable disposition of shares of our common stock or pre-funded warrants 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 an applicable income tax treaty so provides, is attributable to a permanent establishment or a fixed base maintained by such non-U.S. holder in the United States, in which case the non-U.S. holder generally will be taxed on a net income basis at the U.S. federal income tax rates applicable to United States persons (as defined in the Code) and, if the non-U.S. holder is a foreign corporation, the branch profits tax described above in "Distributions on Our Common Stock or Pre-Funded Warrants" also may apply;
- the non-U.S. holder is a nonresident alien individual who is present in the United States for 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty between the United States and such holder's country of residence) on the net gain derived from the taxable disposition, which may be offset by certain U.S. source capital losses of the non-U.S. holder provided the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses, if any; or
- we are, or have been, at any time during the five-year period preceding such taxable disposition (or the non-U.S. holder's holding period, if shorter) a "U.S. real property holding corporation," unless our common stock is regularly traded on an established securities market and the non-U.S. holder holds no more than 5% of our outstanding common stock, directly or indirectly, during the shorter of the five-year period ending on the date of the taxable disposition or the period that the non-U.S. holder held our common stock. Special rules may apply to a holder of a pre-funded warrant. Non-U.S. holders are urged to consult their own tax advisors regarding the application of these rules to pre-funded warrants. If we are determined to be a U.S. real property holding corporation and the foregoing exception does not apply, then the non-U.S. holder generally will be taxed on its net gain derived from the disposition at the U.S. federal income tax rates applicable to United States persons (as defined in the Code). Generally, a corporation is a U.S. real property holding corporation only if the fair market value of its U.S. real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation, or that we are likely to become one in the future. No assurance can be provided that our common stock will be regularly traded on an established securities market for purposes of the rules described above.

U.S. Federal Estate Tax

Shares of our common stock or pre-funded warrants that are owned or treated as owned at the time of death by an individual who is not a citizen or resident of the United States, as specifically defined for U.S.

federal estate tax purposes, are considered U.S. situs assets and will be included in the individual's gross estate for U.S. federal estate tax purposes. Such shares, therefore, may be subject to U.S. federal estate tax, unless an applicable estate tax or other treaty provides otherwise.

Backup Withholding and Information Reporting

We must report annually to the IRS and to each non-U.S. holder the gross amount of the distributions on our common stock or pre-funded warrants paid to such holder and the tax withheld, if any, with respect to such distributions. Non-U.S. holders may have to comply with specific certification procedures to establish that the holder is not a United States person (as defined in the Code) in order to avoid backup withholding at the applicable rate with respect to distributions on our common stock or pre-funded warrants. Generally, a non-U.S. holder will comply with such procedures if it provides a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable Form W-8) or otherwise meets the documentary evidence requirements for establishing that it is a not a United States person or otherwise establishes an exemption. Distributions paid to non-U.S. holders subject to the U.S. withholding tax, as described above in "Distributions on Our Common Stock or Pre-Funded Warrants," generally will be exempt from U.S. backup withholding.

Information reporting and backup withholding will generally apply to the proceeds of a disposition of our common stock or pre-funded warrants by a non-U.S. holder effected by or through the U.S. office of any broker, U.S. or foreign, unless the holder certifies its status as a non-U.S. holder and satisfies certain other requirements, or otherwise establishes an exemption. Generally, information reporting and backup withholding will not apply to a payment of disposition proceeds to a non-U.S. holder where the transaction is effected outside the United States through a non-U.S. office of a broker. However, for information reporting purposes, dispositions effected through a non-U.S. office of a broker with substantial U.S. ownership or operations generally will be treated in a manner similar to dispositions effected through a U.S. office of a broker. Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules to them.

Copies of information returns may be made available to the tax authorities of the country in which the non-U.S. holder resides or is incorporated under the provisions of a specific treaty or agreement.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules from a payment to a non-U.S. holder can be refunded or credited against the non-U.S. holder's U.S. federal income tax liability, if any, provided that an appropriate claim is timely filed with the IRS.

FATCA

Provisions of the Code commonly referred to as the Foreign Account Tax Compliance Act, or FATCA, generally impose a U.S. federal withholding tax at a rate of 30% on payments of dividends on, or gross proceeds from the sale or other disposition of, our common stock or pre-funded warrants paid to foreign entities, unless (i) if the foreign entity is a "foreign financial institution," such foreign entity undertakes certain due diligence, reporting, withholding, and certification obligations, (ii) if the foreign entity is not a "foreign financial institution," such foreign entity identifies certain of its U.S. investors, if any, or (iii) the foreign entity is otherwise exempt under FATCA.

Withholding under FATCA generally will apply to payments of dividends on our common stock or prefunded warrants. While withholding under FATCA may apply to payments of gross proceeds from a sale or other disposition of our common stock or pre-funded warrants, under proposed U.S. Treasury Regulations, withholding on payments of gross proceeds is not required. Although such regulations are not final, applicable withholding agents may rely on the proposed regulations until final regulations are issued.

If withholding under FATCA is required on any payment related to our common stock or pre-funded warrants, investors not otherwise subject to withholding (or that otherwise would be entitled to a reduced rate of withholding) on such payment may be required to seek a refund or credit from the IRS. An intergovernmental agreement between the United States and an applicable foreign country may modify these rules. Non-U.S. holders should consult their own tax advisors regarding the possible implications of

FATCA on their investment in our common stock or pre-funded warrants and the entities through which they hold our common stock or pre-funded warrants.

The preceding discussion of material U.S. federal tax considerations is for informational purposes only. It is not legal or tax advice. Prospective investors should consult their own tax advisors regarding the particular U.S. federal, state, local and non-U.S. tax consequences of purchasing, holding and disposing of our common stock or pre-funded warrants, including the consequences of any proposed changes in applicable laws as well as tax consequences arising under U.S. federal non-income tax laws such as estate and gift tax or under any applicable tax treaty.

UNDERWRITING

Citigroup Global Markets Inc. and Guggenheim Securities, LLC are acting as joint book-running managers of the offering and as representatives of the underwriters named below. Oppenheimer & Co. Inc. is acting as a book-running manager. Subject to the terms and conditions stated in the underwriting agreement dated the date of this prospectus supplement, each underwriter named below has severally agreed to purchase, and we have agreed to sell to that underwriter, the number of shares of common stock and prefunded warrants set forth opposite the underwriter's name.

Underwriter	Number of Shares	Number of Pre-Funded Warrants
Citigroup Global Markets Inc.		
Guggenheim Securities, LLC		
Oppenheimer & Co. Inc.		
Total		

The underwriting agreement provides that the obligations of the underwriters to purchase the shares of common stock and pre-funded warrants included in this offering are subject to approval of legal matters by counsel and to other conditions. The underwriters are obligated to purchase all the shares of common stock and pre-funded warrants (other than those covered by the underwriters' option to purchase additional shares described below) if they purchase any of the shares of common stock and pre-funded warrants.

Shares of common stock and pre-funded warrants sold by the underwriters to the public will initially be offered at the initial public offering prices set forth on the cover of this prospectus supplement. Any shares of common stock and pre-funded warrants sold by the underwriters to securities dealers may be sold at a discount from the initial public offering price not to exceed \$ per share of common stock or pre-funded warrant. If all the shares of common stock and pre-funded warrants are not sold at the initial public offering price, the underwriters may change the offering price and the other selling terms.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus supplement, to purchase up to additional shares at the public offering price less the underwriting discount. To the extent the option is exercised, each underwriter must purchase a number of additional shares approximately proportionate to that underwriter's initial purchase commitment. Any shares issued or sold under the option will be issued and sold on the same terms and conditions as the other shares that are the subject of this offering.

Our officers and directors have agreed not to, for a period of 45 days from the date of this prospectus supplement (such period, the "Lock-up Period), without the prior written consent of Citigroup Global Markets Inc. and Guggenheim Securities, LLC (which consent may be withheld at the sole discretion of Citigroup Global Markets Inc. or Guggenheim Securities, LLC), directly or indirectly:

- offer, sell, assign, transfer, pledge, contract to sell, lend, or otherwise dispose of, or announce the
 intention to otherwise dispose of, any shares of common stock (including, without limitation,
 common stock which may be deemed to be beneficially owned by the lock-up signatory in
 accordance with the rules and regulations promulgated under the Securities Act (such shares
 referred to as the Beneficially Owned Shares) or securities convertible into or exercisable or
 exchangeable for common stock;
- enter into, or announce the intention to enter into, any swap, hedge or similar agreement or arrangement (including, without limitation, 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) that transfers, is designed to transfer or reasonably could be expected to transfer (whether by the lock-up signatory or someone other than the lock-up signatory) in whole or in part, directly or indirectly, the economic risk of ownership of the Beneficially Owned Shares or securities convertible into or exercisable or exchangeable for Common Stock, whether now owned or hereafter acquired by the lock-up signatory or with respect to which the lock-up signatory has or hereafter acquires the power of disposition; or

 engage in, or announce the intention to engage in, any short selling of the common stock or securities convertible into or exercisable or exchangeable for common stock.

The restrictions described in the immediately preceding paragraph shall not apply to:

- securities acquired pursuant to open market transactions, provided that no filing by the lock-up signatory under the Exchange Act, or other public announcement shall be required or shall be made voluntarily in connection with the disposition of such securities until after the expiration of the Lock-Up Period;
- if the lock-up party is a natural person, any transfers made by the lock-up party (a) as a bona fide gift to any member of the immediate family of the lock-up signatory or to a trust the beneficiaries of which are exclusively the lock-up signatory or members of the lock-up signatory's immediate family, (b) by will or intestate succession upon the death of the lock-up signatory, (c) as a bona fide gift to a charity or educational institution, (d) pursuant to a domestic order, divorce settlement, divorce decree, separation agreement or pursuant to an order of a court of competent jurisdiction enforcing such agreement, or (e) to a corporation, limited liability company or partnership wholly owned by the lock-up signatory and/or any member of the lock-up signatory's immediate family, provided that no public announcement shall be made voluntarily in connection with such transfers and such transfers are not for value;
- if the lock-up party is a corporation, partnership, limited liability company or other business entity, any transfers to any stockholder, partner or member of, or owner of a similar equity interest in, the lock-up signatory, as the case may be, if, in any such case, such transfer is not for value;
- if the lock-up party is a trust, distributions of shares of common stock or any security directly or indirectly convertible into common stock to its beneficiaries in a transaction not involving a disposition of value, provided that no filing by the transferor or transferee under the Exchange Act or other public announcement shall be required or shall be made voluntarily in connection with such distribution until after the expiration of the Lock-Up Period;
- if the lock-up signatory is a corporation, partnership, limited liability company or other business entity, any transfer made by the lock-up signatory (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the lock-up signatory's capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the lock-up signatory's assets, in any such case not undertaken for the purpose of avoiding the restrictions imposed by the lock-up agreement, or (b) to another corporation, partnership, limited liability company or other business entity so long as the transferee is an affiliate of the lock-up signatory and such transfer is not for value;
- any transfers of common stock solely in connection with (a) the exercise or settlement of any equity awards outstanding on the date of the underwriting agreement granted pursuant to our equity plans (including any inducement awards granted in accordance with Nasdaq Listing Rule 5635(c)(4)), including any "cashless" exercise thereof, provided that any shares of common stock received upon such exercise remain restricted, or (b) the surrender or forfeiture to us, or the sale pursuant to durable automatic sale instructions, of shares of common stock in partial or full settlement of any withholding tax obligation of the lock-up signatory accruing upon the exercise or vesting of any equity award outstanding on the date of the underwriting agreement granted pursuant to our equity plans (including any inducement awards granted in accordance with Nasdaq Listing Rule 5635(c)(4));
- the establishment of a trading plan that satisfies the requirements of Rule 10b5-1 under the Exchange Act, or a Rule 10b5-1 Plan, for the transfer of shares of common stock, provided that there will be no transfer of shares of the lock-up signatory's common stock during the Lock-Up Period referred to above and no voluntary public announcement or filing regarding the establishment or existence thereof or transactions thereunder or contemplated thereby, by us, the lock-up signatory, or any other person, shall be made during the Lock-Up Period and any required public disclosure during the Lock-Up Period regarding such Rule 10b5-1 Plan shall, to the extent permitted by law, include a statement that the lock-up signatory is not permitted to transfer, sell, or otherwise

- dispose of securities under such trading plan during the Lock-Up Period in contravention of the lock-up agreement;
- transfers of shares of common stock sold pursuant to a Rule 10b5-1 Plan existing on the date of the underwriting agreement; provided, that, the existence and details of such Rule 10b5-1 Plan were communicated to the representatives or their counsel and the lock-up signatory shall not be permitted to amend any such Rule 10b5-1 Plan during the Lock-Up Period to increase the number of shares of common stock to be sold thereunder during the Lock-Up Period;
- transfers of shares of common stock to us pursuant to agreements that are in effect on the date of
 the lock-up agreement under which we have the option to repurchase such shares or securities
 upon termination of the lock-up signatory's employment with us; and
- the transfer of shares of our common stock, or any securities convertible into, exercisable or exchangeable for our common stock, pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction made to all holders of common stock involving a change of control of us (defined as the acquisition of not less than 90% of our outstanding voting securities) including, without limitation, the entry into any lock-up, voting or similar agreement pursuant to which the lock-up signatory may agree to transfer, sell, tender or otherwise dispose of common stock or other such securities in favor of any such transaction, or vote any securities in favor of such transaction, in each case, approved by our board of directors, provided that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the common stock owned will remain subject to the restrictions set forth above:

provided, however, that in the case of any transfer or distribution pursuant to the second, third, fourth, fifth or tenth clauses above, each donee, distributee or transferee shall sign and deliver a lock-up agreement substantially in the form of the lock-up agreements described above; and in the case of any transaction, transfer, exercise or distribution pursuant to the second, third, fifth, sixth, eighth and ninth clauses above, any filing under Section 16(a) of the Exchange Act shall describe the circumstances under which such transaction, transfer, exercise or distribution was made.

During the Lock-Up Period, we have agreed not to, without the prior written consent of Citigroup Global Markets Inc. and Guggenheim Securities, LLC (which consent may be withheld at the sole discretion of Citigroup Global Markets Inc. or Guggenheim Securities, LLC), directly or indirectly offer, sell (including, without limitation, any short sale), assign, transfer, pledge, contract to sell, establish an open "put equivalent position" within the meaning of Rule 16a-1(h) under the Exchange Act, or otherwise dispose of, or announce the offering of, or file any registration statement under the Securities Act in respect of, any common stock, options, rights or warrants to acquire common stock or securities exchangeable or exercisable for or convertible into common stock or publicly announce any intention to do any of the foregoing; provided, however, that we may (i) effect the transactions contemplated hereby; (ii) issue common stock, RSUs and options to purchase common stock, shares of common stock underlying options granted and other securities, each pursuant to any stock option and incentive plan, stock ownership or purchase plan or dividend reinvestment plan of ours or pursuant to awards granted in accordance with Nasdaq Listing Rule 5635(c)(4) in effect on the date of the underwriting agreement and described in the General Disclosure Package (as defined in the underwriting agreement), grant additional awards in accordance with Nasdaq Listing Rule 5635(c)(4), or issue common stock pursuant to the stock purchase agreement we entered into with Novartis in December 2023; (iii) file any registration statement on Form S-8 under the Securities Act or a successor form thereto relating to the shares of common stock granted pursuant to or reserved for issuance under any stock option and incentive plan, stock ownership or purchase plan or dividend reinvestment plan of ours in effect on the date of the underwriting agreement and described in the General Disclosure Package or granted pursuant to or reserved for issuance under awards granted in accordance with Nasdaq Listing Rule 5635(c)(4); (iv) adopt a new equity incentive plan, and file a registration statement on Form S-8 under the Securities Act to register the offer and sale of securities to be issued pursuant to such new equity incentive plan, and issue securities pursuant to such new equity incentive plan (including, without limitation, the issuance of shares of common stock upon the exercise of options or other securities issued pursuant to such new equity incentive plan); provided that such new equity incentive plan satisfies the transaction requirements of General Instruction A.1 of Form S-8 under the Securities Act; (v) offer, issue and sell common stock and other securities in connection with any acquisition or strategic investment

(including any joint venture, strategic alliance or partnership) as long as (1) the aggregate number of shares of common stock issued or issuable does not exceed 5% of the number of shares of common stock outstanding immediately after the issuance and sale of the stock and (2) each recipient of any such shares of common stock or securities agrees to restrictions on the resale of such securities on substantially the same terms as the lock-up agreements to the extent and for the duration that such terms remain in effect at the time of the transfer; and (vi) issue common stock pursuant to our "at-the-market" offering program pursuant to that certain common stock sales agreement between us and Cowen and Company, LLC, dated November 8, 2022, provided that no shares may be issued under the "at-the-market" program until the earlier of (i) the closing of the exercise in full of the underwriters' option to purchase up to an additional

shares of common stock and (ii) 30 calendar days after the date of the underwriting agreement; and provided, further, that we have agreed to cause each newly appointed director or executive officer that is a recipient of shares of common stock, or securities exchangeable or exercisable for or convertible into common stock, shall execute and deliver, on or prior to the issuance of such securities, a lock-up agreement on substantially the same terms as the lock-up agreement described above to the extent and for the duration that such terms remain in effect at the time of the transfer.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "VYGR." We do not intend to list the pre-funded warrants on The Nasdaq Global Select Market, any other nationally recognized securities exchange or any other nationally recognized trading system.

The following table shows the underwriting discounts and commissions that we have agreed to pay to the underwriters in connection with this offering. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Paid by Voyager	Paid by Voyager Therapeutics, Inc.	
	No Exercise	Full Exercise	
Per share	\$	\$	
Per pre-funded warrant	\$	\$	
Total	\$	\$	

We are offering to those purchasers whose purchase of shares of common stock in this offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 9.99% of our outstanding common stock following the consummation of this offering, the opportunity to purchase, in lieu of the shares of our common stock that would result in ownership in excess of 9.99%, prefunded warrants to purchase such excess shares of our common stock. Each pre funded warrant has an exercise price of \$0.001. The purchase price for each such pre-funded warrant will equal the price per share at which the shares of our common stock are being sold to the public in this offering, minus the \$0.001 per share exercise price of each such pre-funded warrant.

We estimate that our total expenses of this offering will be \$\). We have agreed to reimburse the underwriters for certain legal fees and expenses, including expenses related to the clearing of this offering with the Financial Industry Regulatory Authority, Inc., in an amount not to exceed \$20,000 in the aggregate.

In connection with the offering, the underwriters may purchase and sell shares in the open market. Purchases and sales in the open market may include short sales, purchases to cover short positions, which may include purchases pursuant to the underwriters' option to purchase additional shares, and stabilizing purchases.

- Short sales involve secondary market sales by the underwriters of a greater number of shares than they are required to purchase in the offering.
 - "Covered" short sales are sales of shares in an amount up to the number of shares represented by the underwriters' option to purchase additional shares.
 - "Naked" short sales are sales of shares in an amount in excess of the number of shares represented by the underwriters' option to purchase additional shares.
- Covering transactions involve purchases of shares either pursuant to the underwriters' option to purchase additional shares or in the open market in order to cover short positions.

- To close a naked short position, the underwriters must purchase shares in the open market. A
 naked short position is more likely to be created if the underwriters are concerned that there
 may be downward pressure on the price of the shares in the open market after pricing that
 could adversely affect investors who purchase in the offering.
- To close a covered short position, the underwriters must purchase shares in the open market or must exercise the option to purchase additional shares. In determining the source of shares to close the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the underwriters' option to purchase additional shares.
- Stabilizing transactions involve bids to purchase shares so long as the stabilizing bids do not
 exceed a specified maximum.

Purchases to cover short positions and stabilizing purchases, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of the shares. They may also cause the price of the shares to be higher than the price that would otherwise exist in the open market in the absence of these transactions. The underwriters may conduct these transactions on The Nasdaq Global Select Market, in the over-the-counter market or otherwise. If the underwriters commence any of these transactions, they may discontinue them at any time.

Relationships

The underwriters are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The underwriters and their respective affiliates may, from time to time, engage in transactions with and perform services for us in the ordinary course of their business for which they may receive customary fees and reimbursement of expenses. In the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make because of any of those liabilities.

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area, each referred to as a Relevant Member State, no shares or pre-funded warrants have been offered or will be offered pursuant to the offering to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares or pre-funded warrants which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Regulation, except that the shares or pre-funded warrants may be offered to the public in that Relevant Member State at any time:

- (a) to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;
- (b) 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

(c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of the shares or pre-funded warrants shall require us or any of the underwriters or any of their respective affiliates 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 the shares or pre-funded warrants in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares or pre-funded warrants to be offered so as to enable an investor to decide to purchase any shares or pre-funded warrants, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

Each person in a Relevant Member State who receives any communication in respect of, or who acquires any shares or pre-funded warrants under, the offering contemplated hereby will be deemed to have represented, warranted and agreed to and with each of the underwriters and their respective affiliates and us that:

- (a) it is a qualified investor within the meaning of the Prospectus Regulation; and
- (b) in the case of any shares or pre-funded warrants acquired by it as a financial intermediary, as that term is used in Article 5 of the Prospectus Regulation, (i) the shares or pre-funded warrants acquired by it in the offering have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Relevant Member State other than qualified investors, as that term is defined in the Prospectus Regulation, or have been acquired in other circumstances falling within the points (a) to (d) of Article 1(4) of the Prospectus Regulation and the prior consent of the representatives has been given to the offer or resale; or (ii) where the shares or pre-funded warrants have been acquired by it on behalf of persons in any Relevant Member State other than qualified investors, the offer of those shares or pre-funded warrants to it is not treated under the Prospectus Regulation as having been made to such persons.

We, the underwriters and their respective affiliates, and others will rely upon the truth and accuracy of the foregoing representation, acknowledgement and agreement. Notwithstanding the above, a person who is not a qualified investor and who has notified the representatives of such fact in writing may, with the prior consent of the representatives, be permitted to acquire shares or pre-funded warrants in the offering.

Notice to Prospective Investors in the United Kingdom

This prospectus supplement and any other material in relation to the shares or pre-funded warrants described herein is only being distributed to, and is only directed at, and any investment or investment activity to which this prospectus supplement relates is available only to, and will be engaged in only with persons who are (i) persons having professional experience in matters relating to investments who fall within the definition of investment professionals in Article 19(5) of the Financial Promotion Order 2005, or FPO; or (ii) high net worth entities falling within Article 49(2)(a) to (d) of the FPO; (iii) outside the United Kingdom; or (iv) persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services Market Act 2000) in connection with the issue or sale of any shares or pre-funded warrants may otherwise lawfully be communicated or caused to be communicated, all such persons together being referred to as Relevant Persons. The shares or pre-funded warrants are only available in the United Kingdom to, and any invitation, offer or agreement to purchase or otherwise acquire the shares or pre-funded warrants will be engaged in only with, the Relevant Persons. This prospectus supplement and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other person in the United Kingdom. Any person in the United Kingdom that is not a Relevant Person should not act or rely on this prospectus supplement or any of its contents.

No shares or pre-funded warrants 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 or pre-funded warrants which has been approved by the Financial Conduct Authority, except that the shares or pre-funded warrants may be offered to the public in the United Kingdom at any time:

(a) to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;

- (b) 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
- (c) in any other circumstances falling within Section 86 of the FSMA,

provided that no such offer of the shares or pre-funded warrants shall require us or any underwriter or any of their respective affiliates 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 or pre-funded warrants 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 or pre-funded warrants to be offered so as to enable an investor to decide to purchase or subscribe for any shares or pre-funded warrants 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.

Each person in the United Kingdom who acquires any shares or pre-funded warrants in the offering or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with us, the underwriters and their respective affiliates that it meets the criteria outlined in this section.

Notice to Prospective Investors in Canada

The shares or pre-funded warrants 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 or pre-funded warrants 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 supplement (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 France

Neither this prospectus supplement nor any other offering material relating to the shares or pre-funded warrants described in this prospectus supplement has been submitted to the clearance procedures of the Autorité des Marchés Financiers or of the competent authority of another member state of the European Economic Area and notified to the Autorité des Marchés Financiers. The shares or pre-funded warrants have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France. Neither this prospectus supplement nor any other offering material relating to the shares or pre-funded warrants has been or will be:

- released, issued, distributed or caused to be released, issued or distributed to the public in France;
- used in connection with any offer for subscription or sale of the shares or pre-funded warrants to the public in France.

Such offers, sales and distributions will be made in France only:

 to qualified investors (investisseurs qualifiés) and/or to a restricted circle of investors (cercle restreint d'investisseurs), in each case investing for their own account, all as defined in, and in

- accordance with articles L.411-2, D.411-1, D.411-2, D.734-1, D.744-1, D.754-1 and D.764-1 of the French Code monétaire et financier;
- to investment services providers authorized to engage in portfolio management on behalf of third parties; or
- in a transaction that, in accordance with article L.411-2-II-1°-or-2°-or 3° of the French Code monétaire et financier and article 211-2 of the General Regulations (*Règlement Général*) of the Autorité des Marchés Financiers, does not constitute a public offer (*appel public à l'épargne*).

The shares or pre-funded warrants may be resold directly or indirectly, only in compliance with articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French Code monétaire et financier.

Notice to Prospective Investors in Hong Kong

The shares or pre-funded warrants may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the shares or pre-funded warrants may be issued or may be in the possession of any person for the purpose of issue (in each case 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 in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to shares or pre-funded warrants which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Notice to Prospective Investors in Japan

The shares or pre-funded warrants offered in this prospectus supplement have not been and will not be registered under the Financial Instruments and Exchange Law of Japan. The shares or pre-funded warrants have not been offered or sold and will not be offered or sold, directly or indirectly, in Japan or to or for the account of any resident of Japan (including any corporation or other entity organized under the laws of Japan), except (i) pursuant to an exemption from the registration requirements of the Financial Instruments and Exchange Law and (ii) in compliance with any other applicable requirements of Japanese law.

Notice to Prospective Investors in Singapore

This prospectus supplement has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus supplement and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares or pre-funded warrants may not be circulated or distributed, nor may the shares or pre-funded warrants be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), 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, in each case subject to compliance with conditions set forth in the SFA.

Where the shares or pre-funded warrants are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- 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
- 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,

shares or pre-funded warrants, debentures and units of shares and debentures 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:

- to an institutional investor (for corporations, under Section 274 of the SFA) or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer that is made on terms that such shares, debentures and units of shares and debentures of that corporation or such rights and interest in that trust are acquired at a consideration of not less than S\$200,000 (or its equivalent in a foreign currency) for each transaction, whether such amount is to be paid for in cash or by exchange of shares or other assets, and further for corporations, in accordance with the conditions specified in Section 275 of the SFA;
- where no consideration is or will be given for the transfer; or
- where the transfer is by operation of law.

Solely for the purposes of its obligations pursuant to section 309B(1)(a) and 309B(1)(c) of the SFA and the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore, or the CMP Regulations 2018, we have determined, and hereby notify all relevant persons (as defined in Section 309A(1) of the SFA), that the shares or pre-funded warrants 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 Switzerland

We have not and will not register with the Swiss Financial Market Supervisory Authority (FINMA) as a foreign collective investment scheme pursuant to Article 119 of the Federal Act on Collective Investment Scheme of 23 June 2006, as amended (CISA), and accordingly the shares or pre-funded warrants being offered pursuant to this prospectus supplement have not and will not be approved, and may not be licenseable, with FINMA. Therefore, the shares or pre-funded warrants have not been authorized for distribution by FINMA as a foreign collective investment scheme pursuant to Article 119 CISA and the shares or pre-funded warrants offered hereby may not be offered to the public (as this term is defined in Article 3 CISA) in or from Switzerland. The shares or pre-funded warrants may solely be offered to "qualified investors," as this term is defined in Article 10 CISA, and in the circumstances set out in Article 3 of the Ordinance on Collective Investment Scheme of 22 November 2006, as amended (CISO), such that there is no public offer. Investors, however, do not benefit from protection under CISA or CISO or supervision by FINMA. This prospectus supplement and any other materials relating to the shares or prefunded warrants are strictly personal and confidential to each offeree and do not constitute an offer to any other person. This prospectus supplement may only be used by those qualified investors to whom it has been handed out in connection with the offer described in this prospectus supplement and may neither directly or indirectly be distributed or made available to any person or entity other than its recipients. It may not be used in connection with any other offer and shall in particular not be copied and/or distributed to the public in Switzerland or from Switzerland. This prospectus supplement does not constitute an issue prospectus as that term is understood pursuant to Article 652a and/or 1156 of the Swiss Federal Code of Obligations. We have not applied for a listing of the shares or pre-funded warrants on the SIX Swiss Exchange or any other regulated securities market in Switzerland, and consequently, the information presented in this prospectus supplement does not necessarily comply with the information standards set out in the listing rules of the SIX Swiss Exchange and corresponding prospectus schemes annexed to the listing rules of the SIX Swiss Exchange.

LEGAL MATTERS

The validity of the securities offered hereby is being passed upon for us by Wilmer Cutler Pickering Hale and Dorr LLP. Cooley LLP, New York, New York, is acting as counsel for the underwriters in connection with this offering.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our <u>Annual Report on Form 10-K for the year ended December 31, 2022</u>, as set forth in their report, which is incorporated by reference in this prospectus supplement and elsewhere in the registration statement herein by reference. Our financial statements are incorporated by reference 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 file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov. Copies of certain information filed by us with the SEC are also available on our website at www.voyagertherapeutics.com. Our website is not a part of this prospectus supplement and is not incorporated by reference in this prospectus supplement or the accompanying prospectus.

This prospectus supplement is part of a registration statement we filed with the SEC. This prospectus supplement and the accompanying prospectus omit some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiary and the securities we are offering. Statements in this prospectus supplement and the accompanying prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings and the exhibits attached hereto. You should review the complete document to evaluate these statements. You can obtain a copy of the registration statement from the SEC's website.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus supplement and the accompanying prospectus is considered to be part of this prospectus supplement and the accompanying prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus supplement and the accompanying prospectus are continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus supplement and the accompanying prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus supplement, the accompanying prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus supplement and the accompanying prospectus incorporate by reference the documents listed below (File No. 001-37625) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed), until the offering of the securities under the registration statement is terminated or completed:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2022, including the
 information specifically incorporated by reference into the Annual Report on Form 10-K from our
 definitive proxy statement for the 2023 Annual Meeting of Stockholders;
- Quarterly Reports on Form 10-Q for the fiscal quarters ended <u>March 31, 2023</u>, <u>June 30, 2023</u> and <u>September 30, 2023</u>;
- Current Reports on Form 8-K filed on <u>January 9, 2023, February 23, 2023, February 24, 2023, March 13, 2023, May 9, 2023, June 7, 2023, July 10, 2023, August 16, 2023, December 6, 2023, and January 2, 2024; and
 </u>
- The description of our common stock contained in our <u>Registration Statement on Form 8-A filed on November 6, 2015</u>, as the description therein has been updated and superseded by the description of our capital stock contained in <u>Exhibit 4.4</u> to our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, and including any amendments or reports filed for the purpose of updating such description.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

Voyager Therapeutics, Inc. Attn: Chief Financial Officer 75 Hayden Avenue Lexington, MA 02421

\$300,000,000

PROSPECTUS



Common Stock
Preferred Stock
Debt Securities
Depositary Shares
Subscription Rights
Warrants
Purchase Contracts
Units

We may offer and sell securities from time to time in one or more offerings of up to \$300,000,000 in aggregate offering price. This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide the specific terms of these securities in supplements to this prospectus. The prospectus supplements will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained in this document. You should read this prospectus and any applicable prospectus supplement before you invest.

We may offer these securities in amounts, at prices and on terms determined at the time of offering. The securities may be sold directly to you, through agents, or through underwriters and dealers. If agents, underwriters or dealers are used to sell the securities, we will name them and describe their compensation in a prospectus supplement.

Our common stock is listed on The Nasdaq Global Select Market under the symbol "VYGR."

Investing in these securities involves significant risks. You should carefully review the risks and uncertainties referenced under the heading "Risk Factors" contained in this prospectus beginning on page 2 and any applicable prospectus supplement and in the documents incorporated by reference in this prospectus or any prospectus supplement for a discussion of the factors you should carefully consider before deciding to purchase these securities.

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

The date of this prospectus is November 15, 2022.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, which we refer to as the "SEC," utilizing a "shelf" registration process. Under this shelf registration process, we may from time to time sell any combination of the securities described in this prospectus in one or more offerings for an aggregate initial offering price of up to \$300,000,000.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of the offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and the accompanying prospectus supplement together with the additional information described under the headings "Where You Can Find More Information" and "Incorporation by Reference," each beginning on page 3 of this prospectus.

You should rely only on the information contained in or incorporated by reference in this prospectus, any accompanying prospectus supplement or in any related free writing prospectus filed by us with the SEC. We have not authorized anyone to provide you with different information. This prospectus and any accompanying prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus or such accompanying prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Unless the context otherwise indicates, references in this prospectus to "Voyager", "Voyager Therapeutics," "we," "our", "us" and "the Company" refer, collectively, to Voyager Therapeutics, Inc., a Delaware corporation, and its consolidated subsidiaries.

We own various U.S. federal trademark registrations and applications and unregistered trademarks, including our corporate logo. This prospectus and the information incorporated by reference herein contain references to trademarks, service marks and trade names referred to in this prospectus and the information incorporated herein, including logos, artwork, and other visual displays, that may appear without the [®] or TM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks or trade names. We do not intend our use or display of other companies' trade names, service marks or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

RISK FACTORS

Investing in our securities involves significant risks. You should carefully consider the risks and uncertainties described in this prospectus and any accompanying prospectus supplement, including the risk factors set forth in our filings with the SEC that are incorporated by reference herein, before making an investment decision pursuant to this prospectus and any accompanying prospectus supplement relating to a specific offering.

Our business, financial condition and results of operations could be materially and adversely affected by any or all of these risks or by additional risks and uncertainties not presently known to us or that we currently deem immaterial that may adversely affect us in the future.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at www.sec.gov. Copies of certain information filed by us with the SEC are also available on our website at www.voyagertherapeutics.com. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus.

This prospectus is part of a registration statement we filed with the SEC. This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits in the registration statement for further information about us and our consolidated subsidiaries and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings and the exhibits attached thereto. You should review the complete document to evaluate these statements. You can obtain a copy of the registration statement from the SEC's website.

INCORPORATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus. Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below (File No. 001-37625) and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) between the date of the initial registration statement and the effectiveness of the registration statement and following the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated or completed:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed on March 8, 2022, including the information specifically incorporated by reference into the Annual Report on Form 10-K from our <u>Definitive Proxy Statement for the 2022 Annual Meeting of Stockholders</u>;
- Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2022, filed on <u>May 4, 2022</u>;
 June 30, 2022, filed on <u>August 4, 2022</u>; and September 30, 2022, filed on <u>November 8, 2022</u>;
- Current Reports on Form 8-K filed on <u>February 3, 2022</u>; <u>March 22, 2022</u>; <u>April 20, 2022</u>; <u>June 7, 2022</u>; <u>June 23, 2022</u>; <u>July 28, 2022</u>; <u>September 7, 2022</u>; and <u>October 4, 2022</u>; and
- The description of our common stock contained in our Registration Statement on Form 8-A filed on November 6, 2015, as the description therein has been updated and superseded by the description of our capital stock contained in Exhibit 4.4 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, as filed with the SEC on March 3, 2020, and including any amendments and reports filed for the purpose of updating such description.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

Voyager Therapeutics, Inc. 64 Sidney Street Cambridge, Massachusetts 02139 (857) 259-5340

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS AND INDUSTRY DATA

This prospectus and the information incorporated by reference in this prospectus include "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Exchange Act. All statements, other than statements of historical facts, contained or incorporated by reference in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words "anticipate," "believe," "estimate," "expect," "intend," "may," "might," "plan," "predict," "project," "target," "potential," "contemplate," "anticipate," "goals," "will," "would," "could," "should," "continue," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements contained in this prospectus and incorporated by reference herein include, among other things, statements about:

- our plans to develop and commercialize our product candidates based on adeno-associated virus, or AAV, gene therapy and our proprietary antibodies;
- our ability to continue to develop our proprietary gene therapy platform technologies, including our TRACERTM discovery platform, our proprietary antibodies, and our vectorized antibody platform;
- our ability to identify and optimize product candidates and proprietary AAV capsids;
- our strategic collaboration with and funding from our collaboration partner Neurocrine Biosciences, Inc., from our option and license arrangement with Pfizer Inc., and from our option and license arrangement with Novartis Pharma AG;
- our ongoing and planned preclinical development efforts, related timelines and studies;
- the timing of and our ability to submit applications and obtain and maintain regulatory approvals for our product candidates, including the ability to file investigational new drug applications for our programs;
- our estimates regarding expenses, contingent liabilities, future revenues, existing cash resources and capital requirements;
- our ability to conduct clinical trials compliant with current good clinical practices and to develop a
 manufacturing capability compliant with current good manufacturing practices for our product
 candidates;
- our intellectual property position and our ability to obtain, maintain and enforce intellectual property protection for our proprietary assets;
- our estimates regarding the size of the potential markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of our product candidates for any indication once approved;
- our need for additional funding and our plans and ability to raise additional capital, including through equity offerings, debt financings, collaborations, strategic alliances, and option and license arrangements;
- our competitive position and the success of competing products that are or become available for the indications that we are pursuing;
- the impact of government laws and regulations including in the United States, the European Union, and other important geographies such as Japan;
- our ability to enter into future collaborations, strategic alliances, or option and license arrangements;

- our ability to control costs and reprioritize our product candidate pipeline successfully in connection with our strategic initiatives; and
- the potential impact of the COVID-19 pandemic on our research and development efforts and other business operations.

These forward-looking statements are only predictions and we may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements. You should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and operating results. You are cautioned that these forward-looking statements are subject to risks, uncertainties and assumptions that are referenced in the sections entitled "Risk Factors" of this prospectus and of any accompanying prospectus supplement. You should also carefully review the risk factors and cautionary statements described in the other documents that we file from time to time with the SEC, specifically our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, collaborations, joint ventures or investments that we may make or enter into.

You should read this prospectus, the documents incorporated by reference in this prospectus and the documents that we have filed as exhibits to the registration statement of which this prospectus forms a part completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements contained in this prospectus and incorporated by reference herein are made as of the date hereof, and we do not assume any obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

This prospectus includes and incorporates by reference certain statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties as well as our own estimates of potential market opportunities. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. Our estimates of the potential market opportunities for our product candidates include several key assumptions based on our industry knowledge, industry publications, third-party research and other surveys, which may be based on a small sample size and may fail to accurately reflect market opportunities. While we believe that our internal assumptions are reasonable, no independent source has verified such assumptions.

VOYAGER THERAPEUTICS, INC.

We are a biotechnology company dedicated to breaking through barriers in gene therapy and neurology. The potential of both disciplines has been constrained by delivery challenges; we are leveraging expertise in capsid discovery and neuropharmacology to address these constraints. Our gene therapy platforms enable us to engineer, optimize, manufacture and deliver adeno-associated virus, or AAV, based gene therapies that we believe have the potential to safely provide durable efficacy. Our team of experts in the field of AAV gene therapy and neuroscience first identifies and selects diseases in which we believe an AAV gene therapy or other biological therapy will answer a high unmet medical need, be supported by target validation, offer an efficient path to human proof of biology, present robust preclinical pharmacology, and offer strong commercial potential. We then engineer and optimize an AAV vector or other biological therapy for activity in, efficacy in, or delivery to, the targeted tissue or cells.

We are identifying proprietary AAV capsids, the outer viral protein shells that enclose genetic material that makes up the vector payload. Our team has developed a proprietary AAV capsid discovery platform called TRACER TM (Tropism Redirection of AAV by Cell Type-Specific Expression of RNA) that employs directed evolution to facilitate the selection of AAV capsids with enhanced tissue delivery characteristics, such as more effective delivery across the blood brain barrier, or BBB. The TRACER discovery platform is a broadly applicable, functional RNA-based AAV capsid discovery platform that allows for rapid *in vivo* evolution of AAV capsids with cell-specific transduction properties in multiple species, including non-human primates. We believe that capsids we discover through our TRACER discovery platform, which we refer to as TRACER capsids, have the potential to significantly enhance the efficacy and safety of our single dose gene therapies, which we expect to be delivered with targeted surgical delivery or systemic infusions, as compared with conventional capsids.

We are also applying the TRACER discovery platform to generate targeted capsid variant libraries for the selection of capsids with tropism and transduction in additional cell and tissue types. We are actively engaged in discussions with multiple parties to make TRACER capsids available to third parties for use in their drug development programs through potential option and license and other arrangements.

We were incorporated under the laws of the State of Delaware in June 2013. Our principal executive offices are located at 64 Sidney Street, Cambridge, Massachusetts 02139, and our telephone number is (857) 259-5340. Our website address is http://www.voyagertherapeutics.com. The information contained on, or that can be accessed through, our website does not constitute part of this prospectus. We have included our website address in this prospectus only as an inactive textual reference.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities offered under this prospectus for general corporate purposes unless otherwise indicated in the applicable prospectus supplement. General corporate purposes may include research and development costs, including advancement of preclinical programs into clinical development and the conduct of clinical trials, regulatory submissions, sales and marketing activities, and manufacturing expenses; the acquisition or in-license of other products, product candidates, businesses, or technologies; the repayment and refinancing of debt; working capital; and capital expenditures. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of the net proceeds of any offering.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is intended as a summary only and therefore is not a complete description of our capital stock. This description is based upon, and is qualified by reference to, our amended and restated certificate of incorporation, which we refer to as our certificate of incorporation; our amended and restated bylaws, which we refer to as our bylaws; and applicable provisions of Delaware corporate law. You should read our certificate of incorporation and bylaws, which are filed as exhibits to the registration statement of which this prospectus forms a part, for the provisions that are important to you.

Our authorized capital stock consists of 120,000,000 shares of common stock, \$0.001 par value per share, and 5,000,000 shares of preferred stock, \$0.001 par value per share. As of November 4, 2022, 38,607,346 shares of common stock were outstanding and no shares of preferred stock were outstanding.

Common Stock

Annual Meeting. Annual meetings of our stockholders are held on the date designated in accordance with our bylaws. Written notice must be mailed to each stockholder entitled to vote not less than ten nor more than 60 days before the date of the meeting. The presence in person or by proxy of the holders of record of a majority of our issued and outstanding shares entitled to vote at such meeting constitutes a quorum for the transaction of business at meetings of the stockholders. Special meetings of the stockholders may be called only by a majority of the board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the directors then in office. Except as may be otherwise provided by applicable law, our certificate of incorporation or our bylaws, all elections of directors shall be decided by a plurality of the votes properly cast by the stockholders entitled to vote on the election and all other questions shall be decided by a majority of the votes properly cast by stockholders entitled to vote thereon and voting for or against the matter at a duly held meeting of stockholders at which a quorum is present.

Voting Rights. Each holder of common stock is entitled to one vote for each share held of record on all matters to be voted upon by stockholders, including the election of directors. Our certificate of incorporation and bylaws do not provide for cumulative voting rights. Except as otherwise provided by law, our certificate of incorporation, or our bylaws, in all matters other than the election of directors, the affirmative vote of the shares present in person or represented by proxy at a meeting at which a quorum is present and entitled to vote thereon shall be the act of the stockholders. Directors shall be elected by a plurality of the shares present in person or represented by proxy at a meeting at which a quorum is present and properly cast by the stockholders entitled to vote on the election of directors.

Dividends. Subject to the rights, powers and preferences of any outstanding preferred stock, and except as provided by law or in our certificate of incorporation, dividends may be declared and paid or set aside for payment on the common stock out of legally available assets or funds when and as declared by the board of directors or a duly authorized committee thereof. The payment of dividends is contingent upon our revenue and earnings, capital requirements, and general financial condition, as well as contractual restrictions and other considerations deemed to be relevant by our board of directors or such duly authorized committee thereof.

Liquidation, Dissolution and Winding Up. Subject to the rights, powers and preferences of any outstanding preferred stock, in the event of our liquidation, dissolution or winding up, our net assets will be distributed pro rata to the holders of our common stock.

Other Rights. Holders of the common stock have no right to:

- convert the stock into any other security;
- have the stock redeemed:
- · purchase additional stock; or
- maintain their proportionate ownership interest.

Holders of shares of the common stock are not required to make additional capital contributions.

Transfer Agent and Registrar. Computershare Trust Company N.A. is transfer agent and registrar for the common stock.

Preferred Stock

We are authorized to issue "blank check" preferred stock, which may be issued in one or more series upon authorization of our board of directors or a duly authorized committee thereof. Our board of directors or such committee thereof is authorized to fix the designations, powers, preferences and the relative, participating, optional or other special rights and any qualifications, limitations and restrictions of the shares of each series of preferred stock. The authorized shares of our preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange on which our securities may be listed. If the approval of our stockholders is not required for the issuance of shares of our preferred stock, our board may determine not to seek stockholder approval. The specific terms of any series of preferred stock offered pursuant to this prospectus will be described in the prospectus supplement relating to that series of preferred stock.

A series of our preferred stock could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt. Our board of directors or such duly authorized committee thereof will make any determination to issue preferred shares based upon its judgment as to the best interests of our stockholders. Our directors, in so acting, could issue preferred stock having terms that could discourage an acquisition attempt through which an acquirer may be able to change the composition of our board of directors, including a tender offer or other transaction that some, or a majority, of our stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then-current market price of the stock.

The preferred stock has the terms described below unless otherwise provided in the prospectus supplement relating to a particular series of preferred stock. You should read the prospectus supplement relating to the particular series of preferred stock being offered for specific terms, including:

- the designation and stated value per share of the preferred stock and the number of shares offered;
- the amount of liquidation preference per share;
- the price at which the preferred stock will be issued;
- the dividend rate, or method of calculation of dividends, the dates on which dividends will be payable, whether dividends will be cumulative or noncumulative and, if cumulative, the dates from which dividends will commence to accumulate;
- any redemption or sinking fund provisions;
- if other than the currency of the United States, the currency or currencies including composite
 currencies in which the preferred stock is denominated and/or in which payments will or may be
 payable;
- any conversion provisions;
- whether we have elected to offer depositary shares as described under "Description of Depositary Shares"; and
- any other rights, preferences, privileges, limitations and restrictions on the preferred stock.

The preferred stock will, when issued, be fully paid and non-assessable. Unless otherwise specified in the prospectus supplement, each series of preferred stock will rank equally as to dividends and liquidation rights in all respects with each other series of preferred stock. The rights of holders of shares of each series of preferred stock will be subordinate to those of our general creditors.

As described under "Description of Depositary Shares," we may, at our option, with respect to any series of preferred stock, elect to offer fractional interests in shares of preferred stock, and provide for the issuance of depositary receipts representing depositary shares, each of which will represent a fractional interest in a share of the series of preferred stock. The fractional interest will be specified in the prospectus supplement relating to a particular series of preferred stock.

Rank. Unless otherwise specified in the prospectus supplement, the preferred stock will, with respect to dividend rights and rights upon our liquidation, dissolution or winding up of our affairs, rank:

- senior to our common stock and to all equity securities ranking junior to such preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs;
- on a parity with all equity securities issued by us, the terms of which specifically provide that such equity securities rank on a parity with the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs; and
- junior to all equity securities issued by us, the terms of which specifically provide that such equity securities rank senior to the preferred stock with respect to dividend rights or rights upon our liquidation, dissolution or winding up of our affairs.

The term "equity securities" does not include convertible debt securities.

Dividends. Holders of the preferred stock of each series will be entitled to receive, when, as and if declared by our board of directors, cash dividends at such rates and on such dates described in the prospectus supplement. Different series of preferred stock may be entitled to dividends at different rates or based on different methods of calculation. The dividend rate may be fixed or variable or both. Dividends will be payable to the holders of record as they appear on our stock books on record dates fixed by our board of directors, as specified in the applicable prospectus supplement.

Dividends on any series of preferred stock may be cumulative or noncumulative, as described in the applicable prospectus supplement. If our board of directors does not declare a dividend payable on a dividend payment date on any series of noncumulative preferred stock, then the holders of that noncumulative preferred stock will have no right to receive a dividend for that dividend payment date, and we will have no obligation to pay the dividend accrued for that period, whether or not dividends on that series are declared payable on any future dividend payment dates. Dividends on any series of cumulative preferred stock will accrue from the date we initially issue shares of such series or such other date specified in the applicable prospectus supplement.

No dividends may be declared or paid or funds set apart for the payment of any dividends on any parity securities unless full dividends have been paid or set apart for payment on the preferred stock. If full dividends are not paid, the preferred stock will share dividends pro rata with the parity securities.

No dividends may be declared or paid or funds set apart for the payment of dividends on any junior securities unless full dividends for all dividend periods terminating on or prior to the date of the declaration or payment will have been paid or declared and a sum sufficient for the payment set apart for payment on the preferred stock.

Liquidation Preference. Upon any voluntary or involuntary liquidation, dissolution or winding up of our affairs, then, before we make any distribution or payment to the holders of any common stock or any other class or series of our capital stock ranking junior to the preferred stock in the distribution of assets upon any liquidation, dissolution or winding up of our affairs, the holders of each series of preferred stock shall be entitled to receive out of assets legally available for distribution to stockholders, liquidating distributions in the amount of the liquidation preference per share set forth in the prospectus supplement, plus any accrued and unpaid dividends thereon. Such dividends will not include any accumulation in respect of unpaid noncumulative dividends for prior dividend periods. Unless otherwise specified in the prospectus supplement, after payment of the full amount of their liquidating distributions, the holders of preferred stock will have no right or claim to any of our remaining assets. Upon any such voluntary or involuntary liquidation, dissolution or winding up, if our available assets are insufficient to pay the amount of the liquidating distributions on all outstanding preferred stock and the corresponding amounts payable on all other classes or series of our capital stock ranking on parity with the preferred stock and all other such classes or series of shares of capital stock ranking on parity with the preferred stock in the distribution of assets, then the holders of the preferred stock and all other such classes or series of capital stock ranking on parity with the preferred stock will share ratably in any such distribution of assets in proportion to the full liquidating distributions to which they would otherwise be entitled.

Upon any such liquidation, dissolution or winding up and if we have made liquidating distributions in full to all holders of preferred stock, we will distribute our remaining assets among the holders of any other classes or series of capital stock ranking junior to the preferred stock according to their respective rights and preferences and, in each case, according to their respective number of shares. For such purposes, our consolidation or merger with or into any other corporation, trust or entity, or the sale, lease or conveyance of all or substantially all of our property or assets will not be deemed to constitute a liquidation, dissolution or winding up of our affairs.

Redemption. If so provided in the applicable prospectus supplement, the preferred stock will be subject to mandatory redemption or redemption at our option, as a whole or in part, in each case upon the terms, at the times and at the redemption prices set forth in such prospectus supplement.

The prospectus supplement relating to a series of preferred stock that is subject to mandatory redemption will specify the number of shares of preferred stock that shall be redeemed by us in each year commencing after a date to be specified, at a redemption price per share to be specified, together with an amount equal to all accrued and unpaid dividends thereon to the date of redemption. Unless the shares have a cumulative dividend, such accrued dividends will not include any accumulation in respect of unpaid dividends for prior dividend periods. We may pay the redemption price in cash or other property, as specified in the applicable prospectus supplement. If the redemption price for preferred stock of any series is payable only from the net proceeds of the issuance of shares of our capital stock, the terms of such preferred stock may provide that, if no such shares of our capital stock shall have been issued or to the extent the net proceeds from any issuance are insufficient to pay in full the aggregate redemption price then due, such preferred stock shall automatically and mandatorily be converted into the applicable shares of our capital stock pursuant to conversion provisions specified in the applicable prospectus supplement. Notwithstanding the foregoing, we will not redeem any preferred stock of a series unless:

- if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on the preferred stock for all past dividend periods and the then current dividend period; or
- if such series of preferred stock does not have a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full dividends for the then current dividend period.

In addition, we will not acquire any preferred stock of a series unless:

- if that series of preferred stock has a cumulative dividend, we have declared and paid or contemporaneously declare and pay or set aside funds to pay full cumulative dividends on all outstanding shares of such series of preferred stock for all past dividend periods and the then current dividend period; or
- if that series of preferred stock does not have a cumulative dividend, we have declared and paid or
 contemporaneously declare and pay or set aside funds to pay full dividends on the preferred stock of
 such series for the then current dividend period.

However, at any time we may purchase or acquire preferred stock of that series (1) pursuant to a purchase or exchange offer made on the same terms to holders of all outstanding preferred stock of such series or (2) by conversion into or exchange for shares of our capital stock ranking junior to the preferred stock of such series as to dividends and upon liquidation.

If fewer than all of the outstanding shares of preferred stock of any series are to be redeemed, we will determine the number of shares that may be redeemed pro rata from the holders of record of such shares in proportion to the number of such shares held or for which redemption is requested by such holder or by any other equitable manner that we determine. Such determination will reflect adjustments to avoid redemption of fractional shares.

Unless otherwise specified in the prospectus supplement, we will mail notice of redemption at least 10 days but not more than 60 days before the redemption date to each holder of record of preferred stock to be redeemed at the address shown on our stock transfer books. Each notice shall state:

· the redemption date;

- the number of shares and series of preferred stock to be redeemed;
- the redemption price;
- the place or places where certificates for such preferred stock are to be surrendered for payment of the redemption price;
- that dividends on the shares to be redeemed will cease to accrue on such redemption date;
- the date on which the holder's conversion rights, if any, as to such shares shall terminate; and
- the specific number of shares to be redeemed from each such holder if fewer than all the shares of any series are to be redeemed.

If notice of redemption has been given and we have set aside the funds necessary for such redemption in trust for the benefit of the holders of any shares called for redemption, then from and after the redemption date, dividends will cease to accrue on such shares, and all rights of the holders of such shares will terminate, except the right to receive the redemption price.

Voting Rights. Holders of preferred stock will not have any voting rights, except as required by law or as indicated in the applicable prospectus supplement.

Unless otherwise provided for under the terms of any series of preferred stock, no consent or vote of the holders of shares of preferred stock or any series thereof shall be required for any amendment to our certificate of incorporation that would increase the number of authorized shares of preferred stock or the number of authorized shares of any series thereof or decrease the number of authorized shares of preferred stock or the number of authorized shares of any series thereof (but not below the number of authorized shares of preferred stock or such series, as the case may be, then outstanding).

Conversion Rights. The terms and conditions, if any, upon which any series of preferred stock is convertible into shares of our common stock will be set forth in the applicable prospectus supplement relating thereto. Such terms will include the number of shares of common stock into which the shares of preferred stock are convertible, the conversion price, rate or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at our option or at the option of the holders of the preferred stock, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption.

Transfer Agent and Registrar. The transfer agent and registrar for the preferred stock will be set forth in the applicable prospectus supplement.

Provisions of Our Certificate of Incorporation and Bylaws and Delaware Law That May Have Anti-Takeover Effects

Certain provisions of our certificate of incorporation, our bylaws, and Delaware law may have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of us. Such provisions could limit the price that certain investors might be willing to pay in the future for shares of our common stock and may limit the ability of stockholders to remove current management or directors or approve transactions that stockholders may deem to be in their best interest and, therefore, could adversely affect the price of our common stock.

Staggered Board; Board Vacancies; Removal of Directors. Our certificate of incorporation divides our board of directors into three classes with staggered three-year terms. In addition, our certificate of incorporation provides that directors may be removed only for cause and only by the affirmative vote of the holders of 75% of our shares of capital stock present in person or by proxy and entitled to vote. Under our certificate of incorporation and bylaws, any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by a vote of a majority of our directors then in office. Furthermore, our certificate of incorporation and bylaws provide that the authorized number of directors may be fixed solely and exclusively by a resolution of the board of directors. The classification of our board of directors and the limitations on the ability of our stockholders to remove directors, change the authorized number of directors and fill vacancies could make it more difficult for a third party to acquire, or discourage a third party from seeking to acquire, control of our company.

Stockholder Action by Written Consent; Special Meeting of Stockholders. Our certificate of incorporation and our bylaws provide that any action required or permitted to be taken by our stockholders at an annual meeting or special meeting of stockholders may only be taken if it is properly brought before such meeting and may not be taken by written action in lieu of a meeting. Our certificate of incorporation and our bylaws also provide that, except as otherwise required by law, special meetings of the stockholders can only be called by a majority of the board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the directors then in office.

Advance Notice Requirements for Stockholder Proposals and Director Nominations. Our bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to our board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of our board of directors, or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. Specifically, our bylaws provide that a stockholder must notify us in writing of any stockholder nomination of a director not earlier than the close of business on the 120th day and not later than the close of business on the 90^{th} day prior to the first anniversary of the preceding year's annual meeting; provided, that if the date of the annual meeting is advanced by more than 30 days or delayed more than 60 days from such anniversary date, or if no annual meeting were held in the preceding year, notice by the stockholder to be timely must be so delivered not later than the later of (x) the 90th day prior to the date of such annual meeting and (y) the 10th day following the day on which public announcement of the date of such annual meeting is first made by us. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities. These provisions also could discourage a third party from making a tender offer for our common stock, because even if it acquired a majority of our outstanding voting stock, it would be able to take action as a stockholder, such as electing new directors or approving a merger, only at a duly called stockholders meeting and not by written consent.

Exclusive Forum Selection. Our certificate of incorporation provides that, unless we consent in writing to an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of our company, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or other employees to our company or our stockholders, (3) any action asserting a claim against our company arising pursuant to any provision of the General Corporation Law of the State of Delaware, which we refer to as the DGCL, or our certificate of incorporation or bylaws, or (4) any action asserting a claim against our company governed by the internal affairs doctrine, in each case subject to the Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein. This choice of forum provision is inapplicable to actions arising under the Securities Exchange Act of 1934, as amended, and we likewise do not intend to apply this choice of forum provision to actions arising under the Securities Act of 1933, as amended. Although our certificate of incorporation contains the choice of forum provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Super-Majority Voting. The DGCL provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless a corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our bylaws may be amended or repealed by a majority vote of our board of directors or the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to vote on such amendment or repeal, voting as a single class. In addition, the affirmative vote of the holders of at least 75% of the votes that all our stockholders would be entitled to cast in any election of directors is required to amend or repeal or to adopt any provisions inconsistent with provisions of our certificate of incorporation described above under "— Staggered Board; Board Vacancies; Removal of Directors," "— Stockholder Action by Written Consent; Special Meeting of Stockholders," and "— Exclusive Forum Selection."

No Cumulative Voting. The DGCL provides that stockholders are not entitled to the right to accumulate votes in the election of directors unless our certificate of incorporation provides otherwise. Our certificate of incorporation does not provide for cumulative voting.

Blank Check Preferred Stock. Our certificate of incorporation provides for 5,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or to discourage an attempt to obtain control of our company by means of a merger, tender offer, proxy contest, or otherwise. These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and in the policies they implement, and to discourage certain types of transactions that may involve an actual or threatened change of our control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal. The provisions also are intended to discourage certain tactics that may be used in proxy fights. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our company, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquiror or insurgent shareholder or shareholder group. In this regard, our certificate of incorporation grants our board of directors or a duly authorized committee thereof broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of such holders and may have the effect of delaying, deterring, or preventing a change in control of the company and, as a consequence, it also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. Our board of directors currently does not intend to seek shareholder approval prior to any issuance of shares of preferred stock, unless otherwise required by law.

Delaware Business Combination Statute. We are subject to Section 203 of the DGCL, which we refer to as Section 203, which prohibits a Delaware corporation from engaging in business combinations with an interested stockholder. An interested stockholder is generally defined as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation or any entity or person affiliated with or controlling or controlled by such entity or person, which we refer to as an interested stockholder. Section 203 provides that an interested stockholder may not engage in business combinations with the corporation for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation 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, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 662/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combinations to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, lease, transfer, pledge or other disposition of 10% or more of the assets of the corporation to or with the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of
 the stock or any class or series of the corporation beneficially owned by the interested stockholder;
 or

• the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

Directors' Liability

Our certificate of incorporation and bylaws limit or eliminate the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the DGCL and provides that no director will have personal liability to us or to our stockholders for monetary damages for breach of fiduciary duty or other duty as a director. However, these provisions do not eliminate or limit the liability of any of our directors:

- for any breach of the director's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- for voting or assenting to unlawful payments of dividends, stock repurchases or other distributions;
- for any transaction from which the director derived an improper personal benefit.

Any amendment to or repeal of these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission or claim that occurred or arose prior to such amendment or repeal. If the DGCL is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the DGCL.

Our certificate of incorporation and bylaws provide that we must indemnify our directors and officers and we must advance expenses, including attorneys' fees, to each of our directors and officers in connection with legal proceedings arising out of his or her service as one of our directors or officers, as applicable, subject to very limited exceptions.

We maintain a general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers. In addition, we have entered into indemnification agreements with our directors and executive officers. These indemnification agreements may require us, among other things, to indemnify each such director or executive officer, as applicable, for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by him or her in any action or proceeding arising out of his or her service as one of our directors or executive officers, as applicable.

Certain of our non-employee directors may, through their relationships with their employers, be insured or indemnified against certain liabilities incurred in their capacity as members of our board of directors.

DESCRIPTION OF DEBT SECURITIES

The following description summarizes the general terms and provisions of the debt securities that Voyager may offer and sell from time to time. We will describe the specific terms of the debt securities offered through that prospectus supplement, as well as any general terms and provisions described in this section that will not apply to those debt securities. As used in this "Description of Debt Securities," the term "debt securities" means the senior and subordinated debt securities that we issue and the trustee authenticates and delivers under the applicable indenture. When we refer to "Voyager," "the Company," "we," "our," and "us" in this section, we mean Voyager Therapeutics, Inc. excluding, unless the context otherwise requires or as otherwise expressly stated, its subsidiaries.

We may issue senior debt securities from time to time, in one or more series under a senior indenture to be entered into between us and a senior trustee to be named in a prospectus supplement, which we refer to as the senior trustee. We may issue subordinated debt securities from time to time, in one or more series under a subordinated indenture to be entered into between us and a subordinated trustee to be named in a prospectus supplement, which we refer to as the subordinated trustee. The forms of senior indenture and subordinated indenture are filed as exhibits to the registration statement of which this prospectus forms a part. The senior indenture and the subordinated indenture are referred to individually as an indenture and together as the indentures and the senior trustee and the subordinated trustee are referred to individually as a trustee and together as the trustees. This section summarizes some of the provisions of the indentures and is qualified in its entirety by the specific text of the indentures, including definitions of terms used in the indentures. Wherever we refer to particular sections of, or defined terms in, the indentures, those sections or defined terms are incorporated by reference in this prospectus or the applicable prospectus supplement. You should review the indentures that are filed as exhibits to the registration statement of which this prospectus forms a part for additional information.

Neither indenture will limit the amount of debt securities that we may issue. The applicable indenture will provide that debt securities may be issued up to an aggregate principal amount authorized from time to time by us and may be payable in any currency or currency unit designated by us or in amounts determined by reference to an index.

General

The senior debt securities will constitute our unsecured and unsubordinated general obligations and will rank equally in right of payment with our other unsecured and unsubordinated obligations. The subordinated debt securities will constitute our unsecured and subordinated general obligations and will be junior in right of payment to our senior indebtedness (including senior debt securities), as described under the heading "— Certain Terms of the Subordinated Debt Securities — Subordination." The debt securities will be structurally subordinated to all existing and future indebtedness and other liabilities of our subsidiaries unless such subsidiaries expressly guarantee such debt securities.

The debt securities will be our unsecured obligations. Any secured debt or other secured obligations will be effectively senior to the debt securities to the extent of the value of the assets securing such debt or other obligations. Unless otherwise indicated in the applicable prospectus supplement, the debt securities will not be guaranteed by any of our subsidiaries.

The applicable prospectus supplement and/or free writing prospectus will include any additional or different terms of the debt securities of any series being offered, including the following terms:

- the title and type of the debt securities;
- whether the debt securities will be senior or subordinated debt securities, and, with respect to any subordinated debt securities the terms on which they are subordinated;
- the initial aggregate principal amount of the debt securities;
- the price or prices at which we will sell the debt securities;
- the maturity date or dates of the debt securities and the right, if any, to extend such date or dates;

- the rate or rates, if any, at which the debt securities will bear interest, or the method of determining such rate or rates;
- the date or dates from which such interest will accrue, the interest payment dates on which such interest will be payable or the method of determination of such dates;
- the right, if any, to extend the interest payment periods and the duration of that extension;
- the manner of paying principal and interest and the place or places where principal and interest will be payable;
- the denominations of the debt securities if other than \$2,000 or multiples of \$1,000;
- provisions for a sinking fund, purchase fund or other analogous fund, if any;
- any redemption dates, prices, obligations and restrictions on the debt securities;
- the currency, currencies or currency units in which the debt securities will be denominated and the currency, currencies or currency units in which principal and interest, if any, on the debt securities may be payable;
- any conversion or exchange features of the debt securities;
- whether the debt securities will be subject to the defeasance provisions in the indenture;
- whether the debt securities will be issued in definitive or global form or in definitive form only upon satisfaction of certain conditions;
- whether the debt securities will be guaranteed as to payment or performance;
- any special tax implications of the debt securities;
- any events of default or covenants in addition to or in lieu of those set forth in the indenture; and
- any other material terms of the debt securities.

When we refer to "principal" in this section with reference to the debt securities, we are also referring to "premium, if any."

We may from time to time, without notice to or the consent of the holders of any series of debt securities, create and issue further debt securities of any such series ranking equally with the debt securities of such series in all respects (or in all respects other than (1) the payment of interest accruing prior to the issue date of such further debt securities or (2) the first payment of interest following the issue date of such further debt securities may be consolidated and form a single series with the debt securities of such series and have the same terms as to status, redemption or otherwise as the debt securities of such series.

You may present debt securities for exchange and you may present debt securities for transfer in the manner, at the places and subject to the restrictions set forth in the debt securities and the applicable prospectus supplement. We will provide you those services without charge, although you may have to pay any tax or other governmental charge payable in connection with any exchange or transfer, as set forth in the indenture.

Debt securities may bear interest at a fixed rate or a floating rate. Debt securities bearing no interest or interest at a rate that at the time of issuance is below the prevailing market rate (original issue discount securities) may be sold at a discount below their stated principal amount. U.S. federal income tax considerations applicable to any such discounted debt securities or to certain debt securities issued at par which are treated as having been issued at a discount for U.S. federal income tax purposes will be described in the applicable prospectus supplement.

We may issue debt securities with the principal amount payable on any principal payment date, or the amount of interest payable on any interest payment date, to be determined by reference to one or more currency exchange rates, securities or baskets of securities, commodity prices or indices. You may receive a payment of principal on any principal payment date, or a payment of interest on any interest payment date,

that is greater than or less than the amount of principal or interest otherwise payable on such dates, depending on the value on such dates of the applicable currency, security or basket of securities, commodity or index. Information as to the methods for determining the amount of principal or interest payable on any date, the currencies, securities or baskets of securities, commodities or indices to which the amount payable on such date is linked and certain related tax considerations will be set forth in the applicable prospectus supplement.

Certain Terms of the Senior Debt Securities

Covenants. Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the senior debt securities will not contain any financial or restrictive covenants, including covenants restricting either us or any of our subsidiaries from incurring, issuing, assuming or guaranteeing any indebtedness secured by a lien on any of our or our subsidiaries' property or capital stock, or restricting either us or any of our subsidiaries from entering into sale and leaseback transactions.

Consolidation, Merger and Sale of Assets. Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, we may not consolidate with or merge into any other person, in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to any person, in either case, unless:

- the successor entity, if any, is a U.S. corporation, limited liability company, partnership or trust;
- the successor entity assumes our obligations on the senior debt securities and under the senior indenture:
- immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and
- we have delivered to the senior trustee an officer's certificate and an opinion of counsel, each stating
 that the consolidation, merger, conveyance, transfer or lease and, if a supplemental indenture is
 required in connection with such transaction, such supplemental indenture, comply with the senior
 indenture and all conditions precedent provided for in the senior indenture relating to such
 transaction have been complied with.

The restrictions described in the bullets above do not apply (1) to our consolidation with or merging into one of our affiliates, if our board of directors determines in good faith that the purpose of the consolidation or merger is principally to change our state of incorporation or our form of organization to another form or (2) if we merge with or into a single direct or indirect wholly-owned subsidiary of ours.

The surviving business entity will succeed to, and be substituted for, us under the senior indenture and the senior debt securities and, except in the case of a lease, we shall be released from all obligations under the senior indenture and the senior debt securities.

No Protection in the Event of a Change in Control. Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the senior debt securities will not contain any provisions that may afford holders of the senior debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control).

Events of Default. Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the following are events of default under the senior indenture with respect to senior debt securities of each series:

- failure to pay interest on any senior debt securities of such series when due and payable, if that
 default continues for a period of 30 days (or such other period as may be specified for such series);
- failure to pay principal on the senior debt securities of such series when due and payable whether at maturity, upon redemption, by declaration or otherwise (and, if specified for such series, the continuance of such failure for a specified period);

- default in the performance of or breach of any of our covenants or agreements in the senior indenture applicable to senior debt securities of such series, other than a covenant breach which is specifically dealt with elsewhere in the senior indenture, and that default or breach continues for a period of 90 days after we receive written notice from the trustee or from the holders of 25% or more in aggregate principal amount of the senior debt securities of such series;
- · certain events of bankruptcy or insolvency, whether or not voluntary; and
- any other event of default provided for in such series of senior debt securities as may be specified in the applicable prospectus supplement.

Unless we indicate otherwise in a prospectus supplement with respect to a particular series of senior debt securities, the default by us under any other debt, including any other series of our debt securities, is not a default under the senior indenture.

If an event of default other than an event of default specified in the fourth bullet point above occurs with respect to a series of senior debt securities and is continuing under the senior indenture, then, and in each such case, either the trustee or the holders of not less than 25% in aggregate principal amount of such series then outstanding under the senior indenture (each such series voting as a separate class) by written notice to us and to the trustee, if such notice is given by the holders, may, and the trustee at the request of such holders shall, declare the principal amount of and accrued interest on such series of senior debt securities to be immediately due and payable, and upon this declaration, the same shall become immediately due and payable.

If an event of default specified in the fourth bullet point above occurs and is continuing, the entire principal amount of and accrued interest on each series of senior debt securities then outstanding shall automatically become immediately due and payable.

Unless otherwise specified in the prospectus supplement relating to a series of senior debt securities originally issued at a discount, the amount due upon acceleration shall include only the original issue price of the senior debt securities, the amount of original issue discount accrued to the date of acceleration and accrued interest, if any.

Upon certain conditions, declarations of acceleration may be rescinded and annulled and past defaults may be waived by the holders of a majority in aggregate principal amount of all the senior debt securities of such series affected by the default, each series voting as a separate class. Furthermore, subject to various provisions in the senior indenture, the holders of a majority in aggregate principal amount of a series of senior debt securities, by notice to the trustee, may waive a continuing default or event of default with respect to such senior debt securities and its consequences, except a default in the payment of principal of or interest on such senior debt securities (other than any such default in payment resulting solely from an acceleration of the senior debt securities) or in respect of a covenant or provision of the senior indenture which cannot be modified or amended without the consent of the holders of each such senior debt security. Upon any such waiver, such default shall cease to exist, and any event of default with respect to such senior debt securities shall be deemed to have been cured, for every purpose of the senior indenture; but no such waiver shall extend to any subsequent or other default or event of default or impair any right consequent thereto

The holders of a majority in aggregate principal amount of a series of senior debt securities may direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to such senior debt securities. However, the trustee may refuse to follow any direction that conflicts with law or the senior indenture, that may involve the trustee in personal liability or that the trustee determines in good faith may be unduly prejudicial to the rights of holders of such series of senior debt securities not joining in the giving of such direction and may take any other action it deems proper that is not inconsistent with any such direction received from holders of such series of senior debt securities. A holder may not pursue any remedy with respect to the senior indenture or any series of senior debt securities unless:

- the holder gives the trustee written notice of a continuing event of default;
- the holders of at least 25% in aggregate principal amount of such series of senior debt securities
 make a written request to the trustee to pursue the remedy in respect of such event of default;

- the requesting holder or holders offer the trustee indemnity satisfactory to the trustee against any costs, liability or expense;
- the trustee does not comply with the request within 60 days after receipt of the request and the offer
 of indemnity; and
- during such 60-day period, the holders of a majority in aggregate principal amount of such series of senior debt securities do not give the trustee a direction that is inconsistent with the request.

These limitations, however, do not apply to the right of any holder of a senior debt security of any affected series to receive payment of the principal of and interest on such senior debt security in accordance with the terms of such debt security, or to bring suit for the enforcement of any such payment in accordance with the terms of such debt security, on or after the due date for the senior debt securities, which right shall not be impaired or affected without the consent of the holder.

The senior indenture requires certain of our officers to certify, on or before a fixed date in each year in which any senior debt security is outstanding, as to their knowledge of our compliance with all covenants, agreements and conditions under the senior indenture.

Satisfaction and Discharge. We can satisfy and discharge our obligations to holders of any series of debt securities if:

- we have paid or caused to be paid the principal of and interest on all senior debt securities of such series (with certain limited exceptions) when due and payable;
- we deliver to the senior trustee for cancellation all senior debt securities of such series theretofore authenticated under the senior indenture (with certain limited exceptions); or
- all senior debt securities of such series have become due and payable or will become due and
 payable within one year (or are to be called for redemption within one year under arrangements
 satisfactory to the senior trustee) and we deposit in trust an amount of cash or a combination of cash
 and U.S. government or U.S. government agency obligations (or in the case of senior debt securities
 denominated in a foreign currency, foreign government securities or foreign government agency
 securities) sufficient to make interest, principal and any other payments on the debt securities of that
 series on their various due dates;

and if, in any such case, we also pay or cause to be paid all other sums payable under the senior indenture, as and when the same shall be due and payable and we deliver to the senior trustee an officer's certificate and an opinion of counsel, each stating that these conditions have been satisfied.

Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us. Purchasers of the debt securities should consult their own advisers with respect to the tax consequences to them of such deposit and discharge, including the applicability and effect of tax laws other than the U.S. federal income tax law.

Defeasance. Unless the applicable prospectus supplement provides otherwise, the following discussion of legal defeasance and covenant defeasance will apply to any series of debt securities issued under the indentures.

Legal Defeasance. We can legally release ourselves from any payment or other obligations on the debt securities of any series (called "legal defeasance") if certain conditions are met, including the following:

we deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of
the same series cash or a combination of cash and U.S. government or U.S. government agency
obligations (or, in the case of senior debt securities denominated in a foreign currency, foreign
government or foreign government agency obligations) that will generate enough cash to make
interest, principal and any other payments on the debt securities of that series on their various due
dates.

- there is a change in current U.S. federal income tax law or an IRS ruling that lets us make the above deposit without causing you to be taxed on the debt securities any differently than if we did not make the deposit and instead repaid the debt securities ourselves when due. Under current U.S. federal income tax law, the deposit and our legal release from the debt securities would be treated as though we took back your debt securities and gave you your share of the cash and debt securities or bonds deposited in trust. In that event, you could recognize gain or loss on the debt securities you give back to us.
- we deliver to the trustee a legal opinion of our counsel confirming the tax law change or ruling described above.

If we accomplish legal defeasance, as described above, you would have to rely solely on the trust deposit for repayment of the debt securities. You could not look to us for repayment in the event of any shortfall

Covenant Defeasance. Without any change in current U.S. federal tax law, we can make the same type of deposit described above and be released from some of the covenants in the debt securities (called "covenant defeasance"). In that event, you would lose the protection of those covenants but would gain the protection of having money and securities set aside in trust to repay the debt securities. To achieve covenant defeasance, we must do the following (among other things):

- deposit in trust for your benefit and the benefit of all other direct holders of the debt securities of the
 same series cash or a combination of cash and U.S. government or U.S. government agency
 obligations (or, in the case of senior debt securities denominated in a foreign currency, foreign
 government or foreign government agency obligations) that will generate enough cash to make
 interest, principal and any other payments on the debt securities of that series on their various due
 dates
- deliver to the trustee a legal opinion of our counsel confirming that under current U.S. federal
 income tax law we may make the above deposit without causing you to be taxed on the debt
 securities any differently than if we did not make the deposit and instead repaid the debt securities
 ourselves when due.

If we accomplish covenant defeasance, you could still look to us for repayment of the debt securities if there were a shortfall in the trust deposit. In fact, if one of the events of default occurred (such as our bankruptcy) and the debt securities become immediately due and payable, there may be such a shortfall. Depending on the events causing the default, you may not be able to obtain payment of the shortfall.

Modification and Waiver. We and the trustee may amend or supplement the senior indenture or the senior debt securities of any series without the consent of any holder:

- to convey, transfer, assign, mortgage or pledge any assets as security for the senior debt securities of one or more series;
- to evidence the succession of a corporation, limited liability company, partnership or trust to us, and the assumption by such successor of our covenants, agreements and obligations under the senior indenture or to otherwise comply with the covenant relating to mergers, consolidations and sales of assets:
- to comply with requirements of the SEC to effect or maintain the qualification of the senior indenture under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act;
- to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default;
- to cure any ambiguity, defect or inconsistency in the senior indenture or in any supplemental indenture or to conform the senior indenture or the senior debt securities to the description of senior debt securities of such series set forth in this prospectus or any applicable prospectus supplement;
- to provide for or add guarantors with respect to the senior debt securities of any series;

- to establish the form or forms or terms of the senior debt securities as permitted by the senior indenture;
- to evidence and provide for the acceptance of appointment under the senior indenture by a successor trustee, or to make such changes as shall be necessary to provide for or facilitate the administration of the trusts in the senior indenture by more than one trustee;
- to add to, change or eliminate any of the provisions of the senior indenture in respect of one or more series of senior debt securities, provided that any such addition, change or elimination shall

 (a) neither (1) apply to any senior debt security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (2) modify the rights of the holder of any such senior debt security with respect to such provision or (b) become effective only when there is no senior debt security described in clause (a)(1) outstanding;
- to make any change to the senior debt securities of any series so long as no senior debt securities of such series are outstanding; or
- to make any change that does not adversely affect the rights of any holder in any material respect.

Other amendments and modifications of the senior indenture or the senior debt securities issued may be made, and our compliance with any provision of the senior indenture with respect to any series of senior debt securities may be waived, with the consent of the holders of a majority of the aggregate principal amount of the outstanding senior debt securities of each series affected by the amendment or modification (voting as separate series); provided, however, that each affected holder must consent to any modification, amendment or waiver that:

- extends the final maturity of any senior debt securities of such series;
- reduces the principal amount of any senior debt securities of such series;
- reduces the rate, or extends the time for payment of, interest on any senior debt securities of such series:
- reduces the amount payable upon the redemption of any senior debt securities of such series;
- changes the currency of payment of principal of or interest on any senior debt securities of such series;
- reduces the principal amount of original issue discount securities payable upon acceleration of maturity or the amount provable in bankruptcy;
- waives a continuing default in the payment of principal of or interest on the senior debt securities (other than any such default in payment resulting solely from an acceleration of the senior debt securities):
- changes the provisions relating to the waiver of past defaults or impairs the right of holders to receive payment or to institute suit for the enforcement of any payment or conversion of any senior debt securities of such series on or after the due date therefor;
- modifies any of the provisions of these restrictions on amendments and modifications, except to
 increase any required percentage or to provide that certain other provisions cannot be modified or
 waived without the consent of the holder of each senior debt security of such series affected by the
 modification;
- adversely affects the right to convert or exchange senior debt securities into common stock, other securities or property in accordance with the terms of the senior debt securities; or
- reduces the above-stated percentage of outstanding senior debt securities of such series whose
 holders must consent to a supplemental indenture or modifies or amends or waives certain provisions
 of or defaults under the senior indenture.

It shall not be necessary for the holders to approve the particular form of any proposed amendment, supplement or waiver, but it shall be sufficient if the holders' consent approves the substance thereof. After an amendment, supplement or waiver of the senior indenture in accordance with the provisions described in

this section becomes effective, the trustee must give to the holders affected thereby certain notice briefly describing the amendment, supplement or waiver. Any failure by the trustee to give such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such amendment, supplemental indenture or waiver.

Notice of Redemption. Notice of any redemption of senior debt securities will be mailed at least 10 days but not more than 60 days before the redemption date to each holder of senior debt securities of a series to be redeemed. Any notice may, at our discretion, be subject to the satisfaction or waiver of one or more conditions precedent. In that case, such notice shall state the nature of such condition precedent. If we elect to redeem a portion but not all of such senior debt securities, the trustee will select the senior debt securities to be redeemed in a manner that complies with applicable legal and stock exchange requirements, if any. Interest on such debt securities or portions of senior debt securities will cease to accrue on and after the date fixed for redemption, unless we default in the payment of such redemption price and accrued interest with respect to any such senior debt security or portion thereof.

If any date of redemption of any senior debt security is not a business day, then payment of principal and interest may be made on the next succeeding business day with the same force and effect as if made on the nominal date of redemption and no interest will accrue for the period after such nominal date.

Conversion Rights. We will describe the terms upon which senior debt securities may be convertible into our common stock or other securities in a prospectus supplement. These terms will include the type of securities the senior debt securities are convertible into, the conversion price or manner of calculation thereof, the conversion period, provisions as to whether conversion will be at our option or the option of the holders, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of the redemption of the senior debt securities and any restrictions on conversion. They may also include provisions adjusting the number of shares of our common stock or other securities issuable upon conversion.

No Personal Liability of Incorporators, Stockholders, Officers, or Directors. The senior indenture provides that no recourse shall be had under any obligation, covenant or agreement of ours in the senior indenture or any supplemental indenture, or in any of the senior debt securities or because of the creation of any indebtedness represented thereby, against any of our incorporators, stockholders, officers or directors, past, present or future, or of any predecessor or successor entity thereof under any law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise. Each holder, by accepting the senior debt securities, waives and releases all such liability.

Concerning the Trustee. The senior indenture provides that, except during the continuance of an event of default, the trustee will not be liable except for the performance of such duties as are specifically set forth in the senior indenture. If an event of default has occurred and is continuing, the trustee will exercise such rights and powers vested in it under the senior indenture and will use the same degree of care and skill in its exercise as a prudent person would exercise under the circumstances in the conduct of such person's own affairs.

The senior indenture and the provisions of the Trust Indenture Act incorporated by reference therein contain limitations on the rights of the trustee thereunder, should it become a creditor of ours or any of our subsidiaries, to obtain payment of claims in certain cases or to realize on certain property received by it in respect of any such claims, as security or otherwise. The trustee is permitted to engage in other transactions, provided that if it acquires any conflicting interest (as defined in the Trust Indenture Act), it must eliminate such conflict or resign.

We may have normal banking relationships with the senior trustee in the ordinary course of business.

Unclaimed Funds. All funds deposited with the trustee or any paying agent for the payment of principal, premium, interest or additional amounts in respect of the senior debt securities that remain unclaimed for two years after the date upon which such amounts became due and payable will be repaid to us. Thereafter, any right of any holder of senior debt securities to such funds shall be enforceable only against us, and the trustee and paying agents will have no liability therefor.

Governing Law. The senior indenture and the senior debt securities will be governed by, and construed in accordance with, the internal laws of the State of New York.

Certain Terms of the Subordinated Debt Securities

Other than the terms of the subordinated indenture and subordinated debt securities relating to subordination or otherwise as described in the prospectus supplement relating to a particular series of subordinated debt securities, the terms of the subordinated indenture and subordinated debt securities are identical in all material respects to the terms of the senior indenture and senior debt securities.

Additional or different subordination terms may be specified in the prospectus supplement applicable to a particular series.

Subordination. The indebtedness evidenced by the subordinated debt securities is subordinate to the prior payment in full of all of our senior indebtedness, as defined in the subordinated indenture. During the continuance beyond any applicable grace period of any default in the payment of principal, premium, interest or any other payment due on any of our senior indebtedness, we may not make any payment of principal of or interest on the subordinated debt securities (except for certain sinking fund payments). In addition, upon any payment or distribution of our assets upon any dissolution, winding-up, liquidation or reorganization, the payment of the principal of and interest on the subordinated debt securities will be subordinated to the extent provided in the subordinated indenture in right of payment to the prior payment in full of all our senior indebtedness. Because of this subordination, if we dissolve or otherwise liquidate, holders of our subordinated debt securities may receive less, ratably, than holders of our senior indebtedness. The subordination provisions do not prevent the occurrence of an event of default under the subordinated indenture.

The term "senior indebtedness" of a person means with respect to such person the principal of, premium, if any, interest on, and any other payment due pursuant to any of the following, whether outstanding on the date of the subordinated indenture or incurred by that person in the future:

- all of the indebtedness of that person for money borrowed;
- all of the indebtedness of that person evidenced by notes, debentures, bonds or other securities sold by that person for money;
- all of the lease obligations that are capitalized on the books of that person in accordance with generally accepted accounting principles;
- all indebtedness of others of the kinds described in the first two bullet points above and all lease
 obligations of others of the kind described in the third bullet point above that the person, in any
 manner, assumes or guarantees or that the person in effect guarantees through an agreement to
 purchase, whether that agreement is contingent or otherwise; and
- all renewals, extensions or refundings of indebtedness of the kinds described in the first, second or
 fourth bullet point above and all renewals or extensions of leases of the kinds described in the third
 or fourth bullet point above;

unless, in the case of any particular indebtedness, renewal, extension or refunding, the instrument creating or evidencing it or the assumption or guarantee relating to it expressly provides that such indebtedness, renewal, extension or refunding is not superior in right of payment to the subordinated debt securities. Our senior debt securities constitute senior indebtedness for purposes of the subordinated indenture.

DESCRIPTION OF DEPOSITARY SHARES

General

We may, at our option, elect to offer fractional shares of preferred stock, which we call depositary shares, rather than full shares of preferred stock. If we do, we will issue to the public receipts, called depositary receipts, for depositary shares, each of which will represent a fraction, to be described in the applicable prospectus supplement, of a share of a particular series of preferred stock. Unless otherwise provided in the prospectus supplement, each owner of a depositary share will be entitled, in proportion to the applicable fractional interest in a share of preferred stock represented by the depositary share, to all the rights and preferences of the preferred stock represented by the depositary share. Those rights include dividend, voting, redemption, conversion and liquidation rights.

The shares of preferred stock underlying the depositary shares will be deposited with a bank or trust company selected by us to act as depositary under a deposit agreement between us, the depositary and the holders of the depositary receipts. The depositary will be the transfer agent, registrar and dividend disbursing agent for the depositary shares.

The depositary shares will be evidenced by depositary receipts issued pursuant to the deposit agreement. Holders of depositary receipts agree to be bound by the deposit agreement, which requires holders to take certain actions such as filing proof of residence with and paying certain charges to the depositary.

The summary of terms of the depositary shares contained in this prospectus is not a complete description of the terms of the depositary shares. You should refer to the form of the deposit agreement, our certificate of incorporation and the certificate of designation for the applicable series of preferred stock that are, or will be, filed with the SEC.

Dividends and Other Distributions

The depositary will distribute all cash dividends or other cash distributions, if any, received in respect of the preferred stock underlying the depositary shares to the record holders of depositary shares in proportion to the numbers of depositary shares owned by those holders on the relevant record date. The relevant record date for depositary shares will be the same date as the record date for the underlying preferred stock.

If there is a distribution other than in cash, the depositary will distribute property (including securities) received by it to the record holders of depositary shares, unless the depositary determines that it is not feasible to make the distribution. If this occurs, the depositary may, with our approval, adopt another method for the distribution, including selling the property and distributing the net proceeds from the sale to the holders

Liquidation Preference

If a series of preferred stock underlying the depositary shares has a liquidation preference, in the event of the voluntary or involuntary liquidation, dissolution or winding up of us, holders of depositary shares will be entitled to receive the fraction of the liquidation preference accorded each share of the applicable series of preferred stock, as set forth in the applicable prospectus supplement.

Withdrawal of Stock

Unless the related depositary shares have been previously called for redemption, upon surrender of the depositary receipts at the office of the depositary, the holder of the depositary shares will be entitled to delivery, at the office of the depositary to or upon his or her order, of the number of whole shares of the preferred stock and any money or other property represented by the depositary shares. If the depositary receipts delivered by the holder evidence a number of depositary shares in excess of the number of depositary shares representing the number of whole shares of preferred stock to be withdrawn, the depositary will deliver to the holder at the same time a new depositary receipt evidencing the excess number of depositary shares. In no event will the depositary deliver fractional shares of preferred stock upon surrender of depositary receipts. Holders of preferred stock thus withdrawn may not thereafter deposit those shares under the deposit agreement or receive depositary receipts evidencing depositary shares therefor.

Redemption of Depositary Shares

Whenever we redeem shares of preferred stock held by the depositary, the depositary will redeem as of the same redemption date the number of depositary shares representing shares of the preferred stock so redeemed, so long as we have paid in full to the depositary the redemption price of the preferred stock to be redeemed plus an amount equal to any accumulated and unpaid dividends on the preferred stock to the date fixed for redemption. The redemption price per depositary share will be equal to the redemption price and any other amounts per share payable on the preferred stock multiplied by the fraction of a share of preferred stock represented by one depositary share. If less than all the depositary shares are to be redeemed, the depositary shares to be redeemed will be selected by lot or pro rata or by any other equitable method as may be determined by the depositary.

After the date fixed for redemption, depositary shares called for redemption will no longer be deemed to be outstanding and all rights of the holders of depositary shares will cease, except the right to receive the monies payable upon redemption and any money or other property to which the holders of the depositary shares were entitled upon redemption upon surrender to the depositary of the depositary receipts evidencing the depositary shares.

Voting the Preferred Stock

Upon receipt of notice of any meeting at which the holders of the preferred stock are entitled to vote, the depositary will mail the information contained in the notice of meeting to the record holders of the depositary receipts relating to that preferred stock. The record date for the depositary receipts relating to the preferred stock will be the same date as the record date for the preferred stock. Each record holder of the depositary shares on the record date will be entitled to instruct the depositary as to the exercise of the voting rights pertaining to the number of shares of preferred stock represented by that holder's depositary shares. The depositary will endeavor, insofar as practicable, to vote the number of shares of preferred stock represented by the depositary shares in accordance with those instructions, and we will agree to take all action that may be deemed necessary by the depositary to enable the depositary to do so. The depositary will not vote any shares of preferred stock except to the extent it receives specific instructions from the holders of depositary shares representing that number of shares of preferred stock.

Charges of Depositary

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangements. We will pay the charges due to the depositary in connection with the initial deposit of the preferred stock and any redemption of the preferred stock. Holders of depositary receipts will pay transfer, income and other taxes and governmental charges and such other charges (including those in connection with the receipt and distribution of dividends, the sale or exercise of rights, the withdrawal of the preferred stock and the transferring, splitting or grouping of depositary receipts) as are expressly provided in the deposit agreement to be for their accounts. If these charges have not been paid by the holders of depositary receipts, the depositary may refuse to transfer depositary shares, withhold dividends and distributions and sell the depositary shares evidenced by the depositary receipt.

Amendment and Termination of the Deposit Agreement

The form of depositary receipt evidencing the depositary shares and any provision of the deposit agreement may be amended by agreement between us and the depositary. However, any amendment that materially and adversely alters the rights of the holders of depositary shares, other than fee changes, will not be effective unless the amendment has been approved by the holders of a majority of the outstanding depositary shares affected by the amendment. The deposit agreement may be terminated by the depositary or us only if:

- · all outstanding depositary shares have been redeemed; or
- there has been a final distribution of the preferred stock in connection with our dissolution and such distribution has been made to all the holders of depositary shares.

Resignation and Removal of Depositary

The depositary may resign at any time by delivering to us notice of its election to do so, and we may remove the depositary at any time. Any resignation or removal of the depositary will take effect upon our appointment of a successor depositary and its acceptance of such appointment. The successor depositary must be appointed within 60 days after delivery of the notice of resignation or removal and must be a bank or trust company having its principal office in the United States and having the requisite combined capital and surplus as set forth in the applicable agreement.

Notices

The depositary will forward to holders of depositary receipts all notices, reports and other communications, including proxy solicitation materials received from us, that are delivered to the depositary and that we are required to furnish to the holders of the preferred stock. In addition, the depositary will make available for inspection by holders of depositary receipts at the principal office of the depositary, and at such other places as it may from time to time deem advisable, any reports and communications we deliver to the depositary as the holder of preferred stock.

Limitation of Liability

Neither we nor the depositary will be liable if either we or it is prevented or delayed by law or any circumstance beyond its control in performing its obligations. Our obligations and those of the depositary will be limited to performance in good faith of our and their duties thereunder. We and the depositary will not be obligated to prosecute or defend any legal proceeding in respect of any depositary shares or preferred stock unless satisfactory indemnity is furnished. We and the depositary may rely upon written advice of counsel or accountants, on information provided by persons presenting preferred stock for deposit, holders of depositary receipts or other persons believed to be competent to give such information and on documents believed to be genuine and to have been signed or presented by the proper party or parties.

DESCRIPTION OF SUBSCRIPTION RIGHTS

The following description of the subscription rights and terms of the subscription rights agreement is a summary. It summarizes only those aspects of the subscription rights and those portions of the subscription rights agreement which we believe will be most important to your decision to invest in our subscription rights. There may be other provisions in the subscription rights agreement and the subscription certificate relating to the subscription rights which are also important to you. You should read these documents for a full description of the terms of the subscription rights. The forms of the subscription rights agreement and the subscription certificate will be filed or incorporated by reference as exhibits to the registration statement of which this prospectus is a part.

Subscription rights may be issued independently or together with any other security and may or may not be transferable. As part of the rights offering, we may enter into a standby underwriting or other arrangement under which the underwriters or any other person would purchase any securities that are not purchased in such rights offering. If we issue subscription rights, they may be governed by a separate subscription rights agreement that we will sign with a bank or trust company, as rights agent, that will be named in the applicable prospectus supplement. The rights agent will act solely as our agent and will not assume any obligation to any holders of rights certificates or beneficial owners of rights.

In general, a right entitles the holder to purchase for cash a specific number of shares of equity securities at a specified exercise price. The rights are normally issued to stockholders as of a specific record date, may be exercised only for a limited period of time and become void following the expiration of such period. If we determine to issue subscription rights, we will accompany this prospectus with a prospectus supplement that will describe, among other things:

- the record date for stockholders entitled to receive the rights;
- the number of equity securities that may be purchased upon exercise of each right;
- the exercise price of the rights;
- whether the rights are transferable;
- the period during which the rights may be exercised and when they will expire;
- the steps required to exercise the rights;
- the price, if any, for the subscription rights;
- the number of subscription rights issued;
- the terms of the equity securities;
- the extent to which the subscription rights are transferable;
- if applicable, the material terms of any standby underwriting or other arrangement entered into by us in connection with the offering of subscription rights;
- the other terms of the subscription rights, including the terms, procedures and limitations relating to the exercise of the subscription rights;
- whether the rights include "oversubscription rights" so that the holder may purchase more securities if other holders do not purchase their full allotments;
- whether we intend to sell the shares of equity securities that are not purchased in the rights offering
 to an underwriter or other purchaser under a contractual "standby" commitment or other
 arrangement; and
- any applicable United States federal income tax considerations.

If fewer than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase common stock, preferred stock, depositary shares, or debt securities. We may offer warrants separately or together with one or more additional warrants, common stock, preferred stock, depositary shares, or debt securities, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the accompanying prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the expiration date of the warrants. The applicable prospectus supplement will also describe the following terms of any warrants:

- the specific designation and aggregate number of, and the offering price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the date on which the right to exercise the warrants will begin and the date on which that right will
 expire or, if you may not continuously exercise the warrants throughout that period, the specific date
 or dates on which you may exercise the warrants;
- whether the warrants are to be sold separately or with other securities as parts of units;
- whether the warrants will be issued in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- the designation and terms of any equity securities purchasable upon exercise of the warrants;
- the designation, aggregate principal amount, currency and terms of any debt securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the preferred stock or depositary shares with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which any warrants issued as part of a unit and the related debt securities, preferred stock, depositary shares or common stock will be separately transferable;
- the number of shares of common stock, preferred stock or depositary shares purchasable upon exercise of a warrant and the price at which those shares may be purchased;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of, and other provisions for changes to or adjustment in the exercise price of, the warrants, if any;
- · any redemption or call provisions; and

any additional terms of the warrants, including terms, procedures and limitations relating to the exchange or exercise of the warrants.

DESCRIPTION OF PURCHASE CONTRACTS

We may issue purchase contracts, representing contracts obligating holders to purchase from us, and obligating us to sell to the holders, a specified number of shares of common stock, shares of preferred stock, or other securities described in this prospectus or the applicable prospectus supplement at a future date or dates. The price per share may be fixed at the time the share purchase contracts are issued or may be determined by reference to a specific formula set forth in the share purchase contracts. The purchase contracts may be issued separately or as a part of units consisting of a purchase contract and either shares of common stock, shares of preferred stock, our debt securities or debt obligations of third parties, including U.S. Treasury securities, any other security described in the applicable prospectus supplement, or any combination of the foregoing, securing the holder's obligations to purchase the securities under the share purchase contracts.

The purchase contracts may require us to make periodic payments to the holders of units or vice versa, and such payments may be unsecured or prefunded on some basis. The purchase contracts may require holders to secure their obligations thereunder in a specified manner. In certain circumstances, we may deliver newly issued prepaid purchase contracts upon release to a holder of any collateral securing the holder's obligations under the original purchase contract.

The applicable prospectus supplement will describe the terms of the purchase contracts. The description in the prospectus supplement will only be a summary, and you should read the purchase contracts, and, if applicable, collateral or depositary arrangements, relating to the purchase contracts. Material United States federal income tax considerations applicable to the purchase contracts will also be discussed in the applicable prospectus supplement.

Unless otherwise specified in an accompanying prospectus supplement, each purchase contract and any related agreement will be governed by, and construed in accordance with, the laws of the State of New York.

DESCRIPTION OF UNITS

We may issue units consisting of one or more of the other securities described in this prospectus in any combination, as described in the applicable prospectus supplement. We may issue units in one or more series, which will be described in the applicable prospectus supplement. The applicable prospectus supplement will also describe the following terms of any units:

- the designation and the terms of the units and of the securities constituting the units, including whether and under what circumstances the securities comprising the units may be traded separately;
- the identity of any unit agent for the units, if applicable, and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- any additional terms of the governing unit agreement, if applicable;
- any additional provisions for the issuance, payment, settlement, transfer or exchange of the units or
 of the common stock, preferred stock, debt securities, warrants or purchase contracts constituting the
 unit; and
- any applicable material U.S. federal income tax consequences.

FORMS OF SECURITIES

Each debt security, depositary share, subscription right, warrant, purchase contract and unit will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Unless the applicable prospectus supplement provides otherwise, certificated securities will be issued in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depositary or its nominee as the owner of the debt securities, depositary shares, subscription rights, warrants, purchase contracts or units represented by these global securities. The depositary maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

Global Securities

We may issue the debt securities of a particular series, depositary shares, subscription right, warrants, purchase contracts and units in the form of one or more fully registered global securities that will be deposited with a depositary or its nominee identified in the applicable prospectus supplement and registered in the name of that depositary or nominee. In those cases, one or more global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a global security may not be transferred except as a whole by and among the depositary for the global security, the nominees of the depositary or any successors of the depositary or those nominees.

If not described below, any specific terms of the depositary arrangement with respect to any securities to be represented by a global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depositary arrangements.

Ownership of beneficial interests in a global security will be limited to persons, called participants, that have accounts with the depositary or persons that may hold interests through participants. Upon the issuance of a global security, the depositary will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depositary, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in global securities.

So long as the depositary, or its nominee, is the registered owner of a global security, that depositary or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the global security for all purposes under the applicable indenture, deposit agreement, subscription rights agreement, warrant agreement, purchase contract or unit agreement. Except as described below, owners of beneficial interests in a global security will not be entitled to have the securities represented by the global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture, deposit agreement, subscription rights agreement, warrant agreement, purchase contract or unit agreement. Accordingly, each person owning a beneficial interest in a global security must rely on the procedures of the depositary for that global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture, deposit agreement, subscription rights agreement, warrant agreement, purchase contract or unit agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture, deposit agreement, subscription rights

agreement, warrant agreement, purchase contract or unit agreement, the depositary for the global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, and interest payments on debt securities, and any payments to holders with respect to depositary shares, subscription rights, warrants, purchase agreements or units, represented by a global security registered in the name of a depositary or its nominee will be made to the depositary or its nominee, as the case may be, as the registered owner of the global security. None of us, or any trustee, warrant agent, unit agent or other agent of ours, or any agent of any trustee, warrant agent or unit agent will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depositary for any of the securities represented by a global security, upon receipt of any payment to holders of principal, premium, interest or other distribution of underlying securities or other property on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that global security as shown on the records of the depositary. We also expect that payments by participants to owners of beneficial interests in a global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers or registered in "street name," and will be the responsibility of those participants.

If the depositary for any of the securities represented by a global security is at any time unwilling or unable to continue as depositary or ceases to be a clearing agency registered under the Exchange Act, and a successor depositary registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the global security that had been held by the depositary. Any securities issued in definitive form in exchange for a global security will be registered in the name or names that the depositary gives to the relevant trustee, warrant agent, unit agent or other relevant agent of ours or theirs. It is expected that the depositary's instructions will be based upon directions received by the depositary from participants with respect to ownership of beneficial interests in the global security that had been held by the depositary.

PLAN OF DISTRIBUTION

We may sell securities:

- through underwriters;
- · through dealers;
- · through agents;
- · directly to purchasers; or
- through a combination of any of these methods of sale.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. We will, in the prospectus supplement relating to such offering, name any agent that could be viewed as an underwriter under the Securities Act, and describe any commissions that we must pay. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price, or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- · at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price and the proceeds we will receive from the sale of the securities;
- any discounts and commissions to be allowed or re-allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or re-allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are utilized in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Remarketing firms, agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Certain agents, underwriters and dealers, and their associates and affiliates may be customers of, have borrowing relationships with, engage in other transactions with, and/or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business

To facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallot in connection with the offering, creating a short position for their own accounts. In addition, to cover overallotments or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

LEGAL MATTERS

Unless the applicable prospectus supplement indicates otherwise, the validity of the securities in respect of which this prospectus is being delivered will be passed upon by Wilmer Cutler Pickering Hale and Dorr LLP.

EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our <u>Annual Report on Form 10-K for the year ended December 31, 2021</u>, and the effectiveness of our internal control over financial reporting as of December 31, 2021, as set forth in their reports, which are incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

\$100,000,000

Voyager Therapeutics, Inc.

Shares of Common Stock

Pre-Funded Warrants to Purchase Up to

Shares of Common Stock



	PRELIMINARY PROSPECTUS SUPPLEMENT	
	, 2024	
	Joint Book-Running Managers	
Citigroup	Guggen	heim Securities
	Book-Running Manager	
	Oppenheimer & Co.	