

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

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of The Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported): **January 3, 2024**

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

Delaware
(State or other jurisdiction
of incorporation)

001-37625
(Commission
File Number)

46-3003182
(I.R.S. Employer
Identification No.)

75 Hayden Avenue
Lexington, Massachusetts
(Address of principal executive offices)

02421
(Zip Code)

Registrant's telephone number, including area code: **(857) 259-5340**

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.001 par value	VYGR	Nasdaq Global Select Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 1.01. Entry into a Material Definitive Agreement.

On January 4, 2024, Voyager Therapeutics, Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Citigroup Global Markets Inc. and Guggenheim Securities, LLC, as representatives of the several underwriters named therein (the “Underwriters”), relating to an underwritten public offering (the “Offering”) of 7,777,778 shares (the “Firm Stock”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), and, in lieu of Common Stock to certain investors, pre-funded warrants (the “Pre-Funded Warrants”) to purchase up to 3,333,333 shares of Common Stock (the “Warrant Stock”). All of the Firm Stock and the Pre-Funded Warrants are being sold by the Company. The public offering price of the Firm Stock is \$9.00 per share, and the public offering price of the Pre-Funded Warrants is \$8.999 per share underlying each Pre-Funded Warrant. The Underwriters have agreed to purchase the Firm Stock from the Company pursuant to the Underwriting Agreement at a price of \$8.46 and the Pre-Funded Warrants from the Company pursuant to the Underwriting Agreement at a price of \$8.459 per share underlying each Pre-Funded Warrant. Under the terms of the Underwriting Agreement, the Company also granted the Underwriters an option, exercisable for 30 days, to purchase up to an additional 1,666,665 shares of Common Stock (the “Optional Stock” and, together with the Firm Stock, the “Stock”) at the public offering price less the underwriting discounts and commissions.

The Company estimates that the net proceeds from the Offering will be approximately \$93.5 million, or approximately \$107.6 million if the Underwriters exercise in full their option to purchase the Optional Stock, in each case, after deducting underwriting discounts and commissions and estimated offering expenses.

The Stock and the Pre-Funded Warrants will be issued pursuant to a prospectus supplement dated January 4, 2024, and an accompanying base prospectus that form a part of the registration statement on Form S-3 that the Company filed with the Securities and Exchange Commission (the “SEC”) on November 8, 2022 (File No. 333-268240), and was declared effective by the SEC on November 15, 2022. The closing of the Offering is expected to take place on or about January 9, 2024, subject to the satisfaction of customary closing conditions.

Each Pre-Funded Warrant will have an exercise price per share of Common Stock equal to \$0.001 per share. The exercise price and the number of shares of Common Stock issuable upon exercise of each Pre-Funded Warrant is subject to appropriate adjustments in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting the Common Stock, as well as upon any distribution of assets, including cash, stock or other property, to the Company’s stockholders. Each Pre-Funded Warrant will be exercisable from the date of issuance until exercised in full solely by means of a cashless exercise. Under the Pre-Funded Warrants, the Company 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 such exercise, would cause: (i) the aggregate number of shares of Common Stock beneficially owned by such holder (together with its affiliates) to exceed 9.99% of the number of shares of Common Stock outstanding immediately after giving effect to the exercise; or (ii) the combined voting power of the Company’s securities beneficially owned by such holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of the Company’s securities outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Pre-Funded Warrant, which percentage may be changed at the holder’s election to a higher or lower percentage not in excess of 19.99% upon 61 days’ notice to the Company.

The Underwriting Agreement contains customary representations, warranties, covenants and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act of 1933, as amended (the “Securities Act”), other obligations of the parties and termination provisions. The representations, warranties and covenants contained in the Underwriting Agreement were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to such agreement, and may be subject to limitations agreed upon by the contracting parties.

The foregoing descriptions of the terms of the Underwriting Agreement and the Pre-Funded Warrants are each qualified in their entirety by reference to the Underwriting Agreement and the Form of Pre-Funded Warrant, respectively, which are attached as Exhibit 1.1 and Exhibit 4.1 hereto and are incorporated by reference herein.

A copy of the legal opinion and consent of Wilmer Cutler Pickering Hale and Dorr LLP relating to the Stock, the Pre-Funded Warrants and the Warrant Stock is attached as Exhibit 5.1 hereto.

Item 8.01. Other Events.

Pricing of Public Offering

The full text of the press release issued on January 4, 2024, announcing the pricing of the Offering is attached as Exhibit 99.1 hereto and is incorporated herein by reference.

Closing of Novartis Private Placement

As previously disclosed, in connection with the execution of a license and collaboration agreement (the “Collaboration Agreement”) between the Company and Novartis Pharma AG (“Novartis”), the Company and Novartis also entered into a stock purchase agreement on December 28, 2023 (the “Stock Purchase Agreement”). In accordance with the terms of the Stock Purchase Agreement, on January 3, 2024, the Company issued and sold 2,145,002 shares of the Company’s Common Stock (the “Novartis Shares”) to Novartis in a private placement at a price of \$9.324 per share, for an aggregate purchase price of approximately \$20.0 million.

Cash Runway

Based upon the Company’s current long range operating plan, the Company estimates that the net proceeds from the Offering, together with the Company’s existing cash and cash equivalents and marketable securities, amounts expected to be received as reimbursement for development costs under its collaborations with Neurocrine Biosciences, Inc. and Novartis, and the \$20.0 million the Company received as consideration for the purchase of the Novartis Shares and the \$80.0 million upfront payment the Company anticipates receiving from Novartis in connection with the Collaboration Agreement, will enable the Company to fund its operating expenses and capital expenditure requirements into 2027. The Company has based these estimates on assumptions that may prove to be wrong, and the Company could use its available capital resources sooner than it currently expects.

Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995 and other federal securities laws. The use of words such as “may,” “might,” “will,” “would,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “undoubtedly,” “target,” “project,” “intend,” “future,” “potential,” or “continue,” and other similar expressions are intended to identify forward-looking statements. For example, all statements the Company makes regarding the Company’s expectations and plans regarding the Offering, the Company’s anticipated use of proceeds of the Offering, the anticipated closing date of the Offering, the Company’s anticipated cash runway, and the sufficiency of the Company’s cash resources are forward-looking.

All forward-looking statements are based on estimates and assumptions by the Company’s management that, although the Company believes to be reasonable, are inherently uncertain. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that the Company expected. Such risks and uncertainties include, among others, uncertainties related to market conditions, the satisfaction of customary closing conditions related to the Offering and the need for additional financing.

These statements are also subject to a number of material risks and uncertainties that are described in the Company’s most recent Annual Report on Form 10-K filed with the SEC, as updated by its subsequent filings with the SEC. All information in this Form 8-K is as of the date of this Form 8-K, and any forward-looking statement speaks only as of the date on which it was made. The Company undertakes no obligation to publicly update or revise this information or any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
1.1	Underwriting Agreement, dated January 4, 2024, by and among Voyager Therapeutics, Inc. and Citigroup Global Markets Inc. and Guggenheim Securities, LLC, as representatives of the several underwriters named therein.
4.1	Form of Pre-Funded Warrant.
5.1	Opinion of Wilmer Cutler Pickering Hale and Dorr LLP.
23.1	Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1 above).
99.1	Press Release of Voyager Therapeutics, Inc., dated January 4, 2024.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

VOYAGER THERAPEUTICS, INC.

Date: January 8, 2024

By: /s/ Alfred Sandrock, M.D., Ph.D.

Alfred Sandrock, M.D., Ph.D.

Chief Executive Officer, President, and Director

(Principal Executive Officer)

7,777,778 Shares

Pre-Funded Warrants to Purchase 3,333,333 Shares

Voyager Therapeutics, Inc.

Common Stock

UNDERWRITING AGREEMENT

January 4, 2024

CITIGROUP GLOBAL MARKETS INC.

GUGGENHEIM SECURITIES, LLC
As Representatives of the several Underwriters

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, New York 10013

c/o Guggenheim Securities, LLC
330 Madison Ave
New York, New York 10017

Dear Sirs:

1. *INTRODUCTORY.* Voyager Therapeutics, Inc., a Delaware corporation (the “*Company*”), proposes to sell, pursuant to the terms of this Underwriting Agreement, to the several underwriters named in Schedule A hereto (the “*Underwriters*,” or, each, an “*Underwriter*”), (i) an aggregate of 7,777,778 shares (the “*Firm Stock*”) of Common Stock, \$0.001 par value (the “*Common Stock*”), of the Company and (ii) pre-funded warrants of the Company to purchase an aggregate of 3,333,333 shares of Common Stock in a form to be mutually agreed upon by the Company and the Representatives (the “*Warrants*”). The Company also proposes to sell to the Underwriters, upon the terms and conditions set forth in Section 3 hereof, up to an additional 1,666,665 shares of Common Stock (the “*Optional Stock*”). The shares of Common Stock issuable upon exercise of the Warrants are hereinafter referred to as the “*Warrant Stock*.” The Firm Stock and the Optional Stock are hereinafter collectively referred to as the “*Stock*,” and together with the Warrants are referred to as the “*Securities*.” Citigroup Global Markets Inc. (“*Citi*”) and Guggenheim Securities, LLC (“*Guggenheim*”) are acting as representatives of the several Underwriters and in such capacity are hereinafter referred to as the “*Representatives*.”

2. *REPRESENTATIONS AND WARRANTIES OF THE COMPANY.* The Company represents and warrants to the several Underwriters, as of the date hereof and as of each Closing Date (as defined below), and agrees with the several Underwriters, that:

(A) A registration statement of the Company on Form S-3 (File No. 333-268240) (including all amendments thereto filed before execution of this Agreement, any document incorporated by reference therein and any information in a prospectus or prospectus supplement deemed or retroactively deemed to be a part thereof as of such time pursuant to Rule 430B under the Securities Act of 1933, as amended (the “**Securities Act**”), in respect of the Securities and the Warrant Stock, the “**Initial Registration Statement**”), including a base prospectus (the “**Base Prospectus**”) has been filed with the Securities and Exchange Commission (the “**Commission**”). The Initial Registration Statement and any post-effective amendment thereto, each in the form heretofore delivered to you, and, excluding exhibits thereto, to you for each of the other Underwriters, have been declared effective by the Commission and meets the requirements of the Securities Act, and the rules and regulations of the Commission thereunder (the “**Rules and Regulations**”). The Company meets the requirements for use of Form S-3 under the Securities Act and the Rules and Regulations. The proposed offering of the Securities may be made pursuant to General Instruction I.B.1 of Form S-3. Other than (i) the Initial Registration Statement, (ii) a registration statement, if any, increasing the size of the offering filed pursuant to Rule 462(b) under the Securities Act and the Rules and Regulations (a “**Rule 462(b) Registration Statement**”), (iii) the Preliminary Prospectus and the Prospectus (each, as defined below) contemplated by this Agreement to be filed pursuant to Rule 424(b) of the Rules and Regulations in accordance with Section 4(a) hereof and (iv) any Issuer Free Writing Prospectus (as defined below), no other document with respect to the offer and sale of the Securities has heretofore been filed with the Commission. No stop order suspending the effectiveness of the Initial Registration Statement, any post-effective amendment thereto or any Rule 462(b) Registration Statement, if any, has been issued and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been initiated or, to the Company’s knowledge after reasonable investigation and due diligence inquiry of the employees of the Company responsible for such matter (“**Knowledge**”), threatened by the Commission. The preliminary prospectus supplement of the Company, dated January 4, 2024 and filed with the Commission pursuant to Rule 424(b) under the Securities Act, together with the Base Prospectus, including any document incorporated by reference therein, is hereinafter called a “**Preliminary Prospectus**.” The various parts of the Initial Registration Statement, any post-effective amendments thereto filed prior to the Applicable Time (as defined below) and the Rule 462(b) Registration Statement, if any, in each case including (x) all exhibits thereto and all documents incorporated, or deemed to be incorporated, by reference therein, (y) the information contained in the Prospectus filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations and deemed by virtue of Rule 430B under the Securities Act to be part of the Initial Registration Statement at the time of effectiveness pursuant to Rule 430B under the Securities Act and (z) the documents incorporated by reference in the Rule 462(b) Registration Statement at the time the Rule 462(b) Registration Statement became effective, are hereinafter collectively called the “**Registration Statement**.” The final prospectus supplement, in the form filed pursuant to and within the time limits described in Rule 424(b) under the Rules and Regulations, together with the Base Prospectus, including any document incorporated by reference therein, is hereinafter called the “**Prospectus**.” The Registration Statement, at the Applicable Time, meets the requirements set forth in Rule 415(a)(1)(x). The initial effective date of the Initial Registration Statement was not earlier than the date three years before the Applicable Time.

(b) As of the Applicable Time and as of the Closing Date or the Option Closing Date (as defined below), as the case may be, none of (i) the General Use Free Writing Prospectus(es) (as defined below) issued at or prior to the Applicable Time, the Pricing Prospectus (as defined below) and the information included on Schedule C hereto, all considered together (collectively, the “**General Disclosure Package**”), (ii) any individual Limited Use Free Writing Prospectus (as defined below), or (iii) the bona fide electronic road show (as defined in Rule 433(h)(5) of the Rules and Regulations that has been made available without restriction to any person), if any, included or will include any untrue statement of a material fact or omitted or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to the information contained in or omitted from the Pricing Prospectus or any Issuer Free Writing Prospectus (as defined below), in reliance upon, and in conformity with, the Underwriters’ Information (as defined in Section 19 hereof). As used in this paragraph (b) and elsewhere in this Agreement:

“**Applicable Time**” means 9:30 p.m., New York City time, on the date of this Agreement or such other time as agreed to by the Company and the Representatives.

“**Pricing Prospectus**” means the Preliminary Prospectus, as amended and supplemented immediately prior to the Applicable Time.

“**Issuer Free Writing Prospectus**” means any “issuer free writing prospectus,” as defined in Rule 433 of the Rules and Regulations relating to the Securities in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g) of the Rules and Regulations.

“**General Use Free Writing Prospectus**” means any Issuer Free Writing Prospectus that is identified on Schedule B to this Agreement.

“**Limited Use Free Writing Prospectuses**” means any Issuer Free Writing Prospectus that is not a General Use Free Writing Prospectus.

(c) No order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus relating to the proposed offering of the Securities has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been instituted or, to the Company’s Knowledge, threatened by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Securities Act and the Rules and Regulations, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to information contained in or omitted from any Preliminary Prospectus, in reliance upon, and in conformity with the Underwriters’ Information.

(d) At the respective times the Registration Statement and any amendments thereto became or become effective as to the Underwriters and at each Closing Date, the Registration Statement and any amendments thereto conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Prospectus and any amendments or supplements thereto, at the time the Prospectus or any amendment or supplement thereto was issued and at each Closing Date, conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; *provided, however*, that the foregoing representations and warranties in this paragraph (d) shall not apply to information contained in or omitted from the Registration Statement or the Prospectus or any amendment or supplement thereto, made in reliance upon, and in conformity with, the Underwriters’ Information. The Prospectus contains or will contain all required information under Rule 430B.

(e) Each Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Securities or until any earlier date that the Company notified or notifies the Representatives as described in Section 4(g) hereof, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, the Pricing Prospectus or the Prospectus, or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the foregoing representations and warranties in this paragraph (e) shall not apply to information contained in or omitted from the Registration Statement, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, in reliance upon, and in conformity with the Underwriters’ Information.

(f) The documents incorporated by reference in the Prospectus, when they were filed with the Commission conformed in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and none of such documents contained any untrue statement of a material fact or omitted to state any material fact required to be stated therein, or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and any further documents so filed and incorporated by reference in the Prospectus, when such documents are filed with the Commission will conform in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and, when read together with the other information in the Prospectus, will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(g) The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the offering and sale of the Securities other than any Preliminary Prospectus, the Prospectus, the Registration Statement and other materials, if any, permitted under the Securities Act and consistent with Section 4(c) below. The Company will file with the Commission all Issuer Free Writing Prospectuses in the time and manner required under Rules 163(b)(2) and 433(d) of the Rules and Regulations.

(h) (A) At the time of filing the Initial Registration Statement, any Rule 462(b) Registration Statement and any post-effective amendments thereto, and at the date hereof, the Company was not, and the Company currently is not, an “ineligible issuer,” as defined in Rule 405 of the Rules and Regulations.

(i) The Company (a) has not engaged in any Testing-the-Waters Communication and (b) has not authorized anyone to engage in Testing-the-Waters Communications, in each case in respect of the offering of the Securities. “*Testing-the-Waters Communication*” means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the Securities Act.

(j) The Company has been duly organized and is validly existing as a corporation under the laws of the State of Delaware. The Company is duly qualified to do business and is in good standing as a foreign corporation or other legal entity in each jurisdiction in which its ownership or lease of property or the conduct of its business requires such qualification and has all power and authority (corporate or other) necessary to own or hold its properties and to conduct the business in which it is engaged, except where the failure to so qualify or have such power or authority would not (i) have, singularly or in the aggregate, a material adverse effect on the business, assets, general affairs, financial position, stockholders’ equity, results of operations or prospects of the Company and the Subsidiary (as defined below), taken as a whole, or (ii) impair in any material respect the ability of the Company to perform its obligations under this Agreement or to consummate any transactions contemplated by this Agreement (including, without limitation, the issuance and delivery of the Securities and the Warrant Stock), the General Disclosure Package or the Prospectus (any such effect as described in clauses (i) or (ii), a “*Material Adverse Effect*”). Other than Voyager Securities Corporation, a Massachusetts corporation (the “*Subsidiary*”), the Company does not own or control, directly or indirectly, any corporation, partnership, limited liability corporation, association or other entity. The Subsidiary is duly qualified to do business and is in good standing as a corporation in each jurisdiction in which its ownership or lease of property or the conduct of its business requires such qualification, except where the failure to be so qualified or in good standing would not have a Material Adverse Effect. The Company owns all outstanding shares of capital stock of the Subsidiary free and clear of any security interest, claims, liens or other encumbrances and no person or entity has any right to acquire any shares of capital stock of the Subsidiary. Since inception, the Subsidiary has not conducted and does not currently conduct any operations, has not had and does not have any employees and has been and is engaged exclusively in buying, selling, dealing in and holding securities on its own behalf and not as a broker.

(k) This Agreement has been duly authorized, executed and delivered by the Company.

(l) The Stock to be issued and sold by the Company to the Underwriters hereunder has been duly and validly authorized and, when issued and delivered against payment therefor as provided herein, will be duly and validly issued, fully paid, nonassessable, and free and clear of any preemptive or other similar rights, and will conform in all material respects to the descriptions thereof in the Registration Statement, the General Disclosure Package and the Prospectus; and the issuance of the Stock is not subject to any preemptive or similar rights that have not been validly waived or satisfied. The Warrants have been duly and validly authorized and, when executed and delivered against payment therefor as provided herein, will be valid and binding agreements of the Company, enforceable against the Company in accordance with their terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors generally or by general equitable principles. The Warrants will conform in all material respects to the descriptions thereof in the Registration Statement, the General Disclosure Package and the Prospectus. The Warrant Stock has been duly and validly authorized and reserved for issuance upon exercise of the Warrants in a number sufficient to meet the current exercise requirements. The Warrant Stock, when issued and delivered upon exercise of the Warrants in accordance therewith, will be duly and validly issued, fully paid, nonassessable, and free and clear of any preemptive or other similar rights, and will conform in all material respects to the descriptions thereof in the Registration Statement, the General Disclosure Package and the Prospectus; and the issuance of the Warrant Stock is not subject to any preemptive or similar rights that have not been validly waived or satisfied.

(m) The Company has an authorized capitalization as set forth in the Registration Statement, the Pricing Prospectus and the Prospectus, and all of the issued shares of capital stock of the Company, have been duly and validly authorized and issued, are fully paid, nonassessable, and free and clear of any preemptive or similar rights, have been issued in compliance with federal and state securities laws, and conform in all material respects to the description thereof contained in the General Disclosure Package and the Prospectus under the heading "Description of Capital Stock." All of the Company's options and other rights to purchase or exchange any securities for shares of the Company's capital stock have been duly authorized and validly issued and were issued in compliance with federal and state securities laws. None of the outstanding shares of Common Stock was issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company other than those which have been waived or satisfied. As of the date set forth in the General Disclosure Package, there were no authorized or outstanding shares of capital stock, options, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company other than those described above or accurately described in all material respects in the General Disclosure Package or contemplated by the Prospectus. Since such date, except as set forth in the General Disclosure Package, the Company has not issued any securities other than Common Stock issued (x) upon the exercise of stock options or the settlement of restricted stock units described in the Registration Statement, General Disclosure Package and the Prospectus, and the grant of options and awards under, the Company's existing equity incentive plans that are described in the Registration Statement, General Disclosure Package and the Prospectus, (y) pursuant to the Company's 2015 Employee Stock Purchase Plan (the "*ESPP*") that is described in the Registration Statement, General Disclosure Package and the Prospectus, and (z) pursuant to awards granted in accordance with Nasdaq Listing Rule 5635(c)(4). The description of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, as described in the General Disclosure Package and the Prospectus, accurately and fairly present in all material respects the information required to be shown with respect to such plans, arrangements, options and rights.

(n) The execution, delivery and performance of this Agreement and the Warrants by the Company, the issue and sale of the Securities by the Company, the issuance of the Warrant Stock and the consummation of the transactions contemplated by this Agreement will not (with or without notice or lapse of time or both) (i) conflict with or result in a breach or violation of any of the terms or provisions of, constitute a default or a Debt Repayment Triggering Event (as defined below) under, or result in the creation or imposition of any lien, encumbrance, security interest, claim or charge upon any property or assets of the Company or the Subsidiary pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or the Subsidiary is a party or by which the Company or the Subsidiary is bound or to which any of the property or assets of the Company or the Subsidiary is subject, (ii) result in any violation of the provisions of the charter or by-laws of the Company or (iii) result in the violation of any law, statute, rule, regulation, judgment, order or decree of any court or governmental or regulatory agency or authority, domestic or foreign, having jurisdiction over the Company or any of its properties or assets except, in the case of clauses (i) and (iii) above, to the extent that any such conflict, breach, violation or default that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. A “**Debt Repayment Triggering Event**” means any event or condition that gives, or with the giving of notice or lapse of time would give the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder’s behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or the Subsidiary.

(o) Except for the registration of the Securities under the Securities Act and applicable state securities laws, and such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Financial Industry Regulatory Authority, Inc. (“**FINRA**”) and the Nasdaq Global Select Market in connection with the purchase and distribution of the Securities by the Underwriters and the listing of the Stock and any Warrant Stock on the Nasdaq Global Select Market, no consent, approval, authorization or order of, or filing, qualification or registration (each an “**Authorization**”) with, any court, governmental or regulatory agency or authority, foreign or domestic, which has not been made, obtained or taken and is not in full force and effect, is required for the execution, delivery and performance of this Agreement or the Warrants by the Company, the issuance and sale of the Securities, the issuance of the Warrant Stock or the consummation of the transactions contemplated by this Agreement or the Warrants; and no event has occurred that allows or results in, or after notice or lapse of time or both would allow or result in, revocation, suspension, termination or invalidation of any such Authorization or any other impairment of the rights of the holder or maker of any such Authorization. All corporate approvals (including those of stockholders) necessary for the Company to consummate the transactions contemplated by this Agreement and the Warrants have been obtained and are in effect.

(p) Ernst & Young LLP, who have certified certain consolidated financial statements of the Company and the Subsidiary included or incorporated by reference in the Registration Statement, General Disclosure Package and the Prospectus, is an independent registered public accounting firm with respect to the Company within the meaning of Article 2-01 of Regulation S-X and the Public Company Accounting Oversight Board (United States) (the “**PCAOB**”).

(q) The consolidated financial statements, together with the related notes, included or incorporated by reference in the General Disclosure Package, the Prospectus and in the Registration Statement fairly present, in all material respects, the financial position and the results of operations and changes in financial position of the Company and its consolidated subsidiaries at the respective dates or for the respective periods therein specified. Such statements and related notes have been prepared in accordance with the generally accepted accounting principles in the United States (“**GAAP**”) applied on a consistent basis throughout the periods involved except as may be set forth in the related notes included or incorporated by reference in the General Disclosure Package. The consolidated financial statements, together with the related notes, included or incorporated by reference in the General Disclosure Package and the Prospectus comply in all material respects with Regulation S-X. No other financial statements or supporting schedules or exhibits are required by Regulation S-X to be described or included in the Registration Statement, the General Disclosure Package or the Prospectus. The summary financial data included or incorporated by reference in the General Disclosure Package, the Prospectus and the Registration Statement fairly present, in all material respects, the information shown therein as at the respective dates and for the respective periods specified and are derived from the consolidated financial statements set forth or incorporated by reference in the Registration Statement, the Pricing Prospectus and the Prospectus and other financial information. All information contained in the Registration Statement, the General Disclosure Package and the Prospectus regarding “non-GAAP financial measures” (as defined in Regulation G) complies with Regulation G and Item 10 of Regulation S-K, to the extent applicable.

(r) The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(s) Neither the Company nor the Subsidiary has sustained, since the date of the latest audited consolidated financial statements included or incorporated by reference in the General Disclosure Package, except as set forth or contemplated in the General Disclosure Package: (i) any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or action, order or decree of any court or governmental or regulatory authority, otherwise than as set forth or contemplated in the General Disclosure Package; (ii) any material change in the capital stock (other than the issuance of shares of Common Stock (w) upon the exercise of stock options or the settlement of restricted stock units and the grant of options and awards under existing equity incentive plans, (x) pursuant to the ESPP, (y) pursuant to awards granted in accordance with Nasdaq Listing Rule 5635(c)(4), and (z) pursuant to that certain Stock Purchase Agreement, by and between Novartis Pharma AG and the Company, dated December 28, 2023 (the "*Novartis SPA*"), in the case of (x) and (y) as described in the Registration Statement, the General Disclosure Package and the Prospectus); (iii) any material increase in the long-term debt; or (iv) any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse changes, or any development involving a prospective material adverse change, in or affecting the business, assets, general affairs, financial position, stockholders' equity, results of operations or prospects of the Company and the Subsidiary taken as a whole.

(t) There is no legal or governmental proceeding to which the Company or the Subsidiary is a party or of which any property or assets of the Company or the Subsidiary is the subject, including any proceeding before the United States Food and Drug Administration of the U.S. Department of Health and Human Services (the "*FDA*") or comparable federal, state, local or foreign governmental authorities (it being understood that the interaction between the Company and the FDA and such comparable governmental authorities relating to the clinical development and product approval process shall not be deemed proceedings for purposes of this representation), which is required to be described in the Registration Statement, the General Disclosure Package or the Prospectus and is not described therein, or which, singularly or in the aggregate, if determined adversely to the Company or the Subsidiary, would reasonably be expected to have a Material Adverse Effect; and to the Company's Knowledge, no such proceedings are threatened or contemplated by governmental or regulatory authorities or threatened by others. The Company and the Subsidiary are in compliance with all applicable federal, state, local and foreign laws, regulations, orders and decrees governing their businesses as prescribed by the FDA, or any other federal, state or foreign agencies or bodies engaged in the regulation of pharmaceuticals or biohazardous substances or materials, except where noncompliance would not, singularly or in the aggregate, have a Material Adverse Effect. All preclinical and clinical studies conducted by or on behalf of the Company to support approval for commercialization of the Company's product candidates that are described in the Registration Statement, the General Disclosure Package and the Prospectus have been conducted by the Company, or to the Company's Knowledge by third parties, in compliance with all applicable federal, state or foreign laws, rules, orders and regulations, except for such failure or failures to be in compliance which would not reasonably be expected to have, singularly or in the aggregate, a Material Adverse Effect. None of the Company, the Subsidiary or any of their respective officers, employees, directors, or the Company's Knowledge, agents, affiliates, or representatives, has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion.

(u) Neither the Company nor the Subsidiary is in (i) violation of its charter or by-laws, (ii) default in any respect, and no event has occurred which, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it is bound or to which any of its property or assets is subject (including, without limitation, those administered by the FDA or by any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA) or (iii) violation in any respect of any law, ordinance, governmental rule, regulation or court order, decree or judgment to which it or its property or assets may be subject except, in the case of clauses (i) (with regard to the Subsidiary only), (ii) and (iii) above, for any such violation or default that would not, singularly or in the aggregate, have a Material Adverse Effect.

(v) The Company and the Subsidiary possess all licenses, certificates, authorizations and permits issued by, and have made all declarations and filings with, the appropriate local, state, federal or foreign governmental or regulatory agencies or bodies (including, without limitation, those administered by the FDA or by any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA) that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the Registration Statement, General Disclosure Package and the Prospectus (collectively, the “**Governmental Permits**”) except where any failures to possess or make the same would not, singularly or in the aggregate, have a Material Adverse Effect. The Company and the Subsidiary are in compliance with all such Governmental Permits, and all such Governmental Permits are valid and in full force and effect, except where such non-compliance, invalidity or failure to be in full force and effect would not, singularly or in the aggregate, have a Material Adverse Effect. Neither the Company nor the Subsidiary has received notification of any revocation, modification, suspension, termination or invalidation (or proceedings related thereto) of any such Governmental Permit and the Company has no reason to believe that any such Governmental Permit will not be renewed, except where such revocation, modification, suspension, termination, invalidation or non-renewal would not, singularly or in the aggregate, have a Material Adverse Effect. Neither the Company nor the Subsidiary is a party to and has any ongoing reporting obligations pursuant to any corporate integrity agreement, deferred prosecution agreement, monitoring agreement, consent decree, settlement order, plan of correction or similar agreement imposed by any governmental or regulatory authority.

(w) The studies, tests and preclinical or clinical trials conducted by or, to the Company’s Knowledge, on behalf of the Company that are described in the General Disclosure Package and the Prospectus (the “**Company Studies and Trials**”) were and, if still pending, are being, conducted in all material respects in accordance with experimental protocols, procedures and controls pursuant to, where applicable, accepted professional scientific standards for products or product candidates comparable to those being developed by the Company; the descriptions of the results of the Company Studies and Trials contained or incorporated by reference in the Registration Statement, General Disclosure Package and the Prospectus are accurate in all material respects; the Company has no Knowledge of any other studies or trials not described in the General Disclosure Package and the Prospectus, the results of which are materially inconsistent with or call in question the results described or referred to in the Registration Statement, General Disclosure Package and the Prospectus when viewed in the context in which such results are described and the clinical state of development of the applicable product or product candidate; and the Company has not received any notices or correspondence from the FDA or any foreign, state or local governmental authority exercising comparable authority requiring the termination, suspension or material modification of any Company Studies or Trials, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials, which termination, suspension or material modification would reasonably be expected to have a Material Adverse Effect and, to the Company’s Knowledge, there are no reasonable grounds for the same. To the Company’s Knowledge, the manufacturing facilities and operations of its suppliers are operated in compliance in all material respects with all applicable statutes, rules, regulations and policies of the FDA and comparable governmental authorities outside of the United States to which the Company is subject.

(x) The Company is not and, immediately after giving effect to the offering of the Securities and the application of the proceeds thereof as described in the General Disclosure Package and the Prospectus, will not be required to register as an “investment company” or an entity “controlled” by an “investment company” within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder.

(y) Neither the Company nor, to the Company’s Knowledge, any of its officers, directors or affiliates has taken, directly or indirectly, any action designed or intended to stabilize or manipulate the price of any security of the Company, or which caused or resulted in, or which would in the future reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company.

(z) The Company owns or possesses, or can acquire on reasonable terms, the right to use all (i) patents, patent applications, trademarks, trademark registrations, service marks, service mark registrations, Internet domain name registrations, copyrights, copyright registrations, licenses and trade secret rights (collectively, “**Intellectual Property Rights**”) and (ii) inventions, software, works of authorships, trademarks, service marks, trade names, databases, formulae, know how, Internet domain names and other intellectual property (including trade secrets and other unpatented and/or unpatentable proprietary confidential information, systems, or procedures) (collectively, “**Intellectual Property Assets**”) necessary to conduct its business as currently conducted, and as proposed to be conducted and described in the Registration Statement, General Disclosure Package and the Prospectus. The Company has not received any opinion from its legal counsel concluding that any activities of its business infringes, misappropriates, or otherwise violates, valid and enforceable Intellectual Property Rights of any other person, and has not received written notice of any challenge, which is to the Company’s Knowledge still pending, by any other person to the rights of the Company with respect to any Intellectual Property Rights or Intellectual Property Assets owned or used by the Company that, in each case, singularly or in the aggregate, would reasonably be expected to have a Material Adverse Effect. To the Company’s Knowledge, the Company’s business as now conducted does not give rise to any infringement of, any misappropriation of, or other violation of, any valid and enforceable Intellectual Property Rights of any other person in any material respect. All licenses for the use of the Intellectual Property Rights described in the Registration Statement, General Disclosure Package and the Prospectus are valid, binding upon, and enforceable by or against the Company, and to the Company’s Knowledge, by or against the parties thereto in accordance with their terms. The Company has complied in all material respects with, and is not in material breach of, nor has it received any asserted or threatened claim of breach of any intellectual property licenses for the use of the Intellectual Property Rights, and the Company has no Knowledge of any breach or anticipated breach by any other person of any such intellectual property licenses, in each case which claim remains outstanding and has not been dismissed, settled or otherwise resolved. Except as described in the Prospectus or the General Disclosure Package, no claim has been made or is pending against the Company alleging the infringement by the Company of any patent, trademark, service mark, trade name, copyright, trade secret, license in or other intellectual property right or franchise right of any person that, in each case, singularly or in the aggregate, would reasonably be expected to have a Material Adverse Effect. The Company and the Subsidiary have taken used commercially reasonable efforts to protect, maintain and safeguard their Intellectual Property Rights, including the use of appropriate nondisclosure and confidentiality agreements. The consummation of the transactions contemplated by this Agreement will not result in the material loss or impairment of or payment of any additional amounts with respect to, nor require the consent of any other person in respect of, the Company's right to own, use, or hold for use any of the Intellectual Property Rights as owned, used or held for use in the conduct of the business as currently conducted. The Company and the Subsidiary have taken commercially reasonable actions to obtain ownership of all works of authorship and inventions made by their respective employees, consultants and contractors during the time they were employed by or under contract with the Company or the Subsidiary, as applicable, and which relate to the Company’s or the Subsidiary’s respective businesses. All key employees have signed confidentiality and invention assignment agreements with the Company.

(aa) Except as would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect, the Company's and the Subsidiary's information technology assets and equipment, computers, systems, networks, hardware, and databases (collectively, "**IT Systems**") are reasonably adequate for the operation of the business of the Company and the Subsidiary as currently conducted. The Company and the Subsidiary have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, operation, redundancy and security of all IT Systems and data, including "Personal Data," used in connection with their businesses. "**Personal Data**" means (i) a natural person's name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver's license number, passport number, credit card number, or bank account information; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) "personal data" as defined by GDPR (as defined below); (iv) any information which would qualify as "protected health information" under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, "**HIPAA**"); and (v) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation, and, together with all proprietary or confidential information of the Company, "**Sensitive Data**". To the Company's Knowledge, in the past three (3) years, there have been no breaches, violations, outages or unauthorized uses of or accesses to such Sensitive Data or IT Systems, except for those that have been remedied without material cost or liability or the duty to notify any other person under Privacy Laws (as defined below).

(bb) The Company and the Subsidiary are, and since December 31, 2022, have been, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, the European Union General Data Protection Regulation ("**EU GDPR**") (EU 2016/679) and the United Kingdom General Data Protection Regulation ("**UK GDPR**"), and all applicable state privacy laws (including the California Consumer Privacy Act ("**CCPA**"), California Privacy Rights Act ("**CPRA**"), and all similar laws in any other states) (collectively, the "**Privacy Laws**"). The Company and the Subsidiary have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with the Company's policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Sensitive Data (the "**Policies**"). The Company further certifies that, during the past five (5) years, neither it nor the Subsidiary: (i) has received written notice of any actual liability under or relating to, or actual or potential violation of, any of the Privacy Laws; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action initiated by a governmental authority pursuant to any Privacy Law; or (iii) is a party to any order, decree, or settlement agreement issued by a governmental authority that imposes any obligation or liability under any Privacy Law.

(cc) The Company and the Subsidiary have good and marketable title in fee simple (in the case of real property) to, or have valid and marketable rights to lease or otherwise use, all items of real or personal property, which are material to their respective businesses taken as a whole, in each case free and clear of all liens, encumbrances, security interests, claims and defects that do not, singularly or in the aggregate, materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company or the Subsidiary; and all of the leases and subleases material to the business of the Company, and under which the Company holds properties described in the General Disclosure Package and the Prospectus, are in full force and effect and the Company has not received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company to the continued possession of the leased or subleased premises under any such lease or sublease.

(dd) There is (A) no unfair labor practice complaint pending against the Company or the Subsidiary, nor to the Company's Knowledge, threatened against the Company or the Subsidiary, before the National Labor Relations Board, any state or local labor relations board or any foreign labor relations board, and no significant grievance or significant arbitration proceeding arising out of or under any collective bargaining agreement is so pending against the Company or the Subsidiary, or, to the Company's Knowledge, threatened against the Company or the Subsidiary, in each case that would reasonably be expected, singularly or in the aggregate, to have a Material Adverse Effect, and (B) no labor disturbance by or dispute with, employees of the Company or the Subsidiary exists or, to the Company's Knowledge, is contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or the Subsidiary's principal suppliers, manufacturers, customers or contractors, that would reasonably be expected, singularly or in the aggregate, to have a Material Adverse Effect. The Company is not aware that any key employee or significant group of employees of the Company or the Subsidiary plans to terminate employment with the Company or the Subsidiary, as applicable.

(ee) No non-exempt "prohibited transaction" (as defined in Section 406 of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder ("**ERISA**"), or Section 4975 of the Internal Revenue Code of 1986, as amended from time to time (the "**Code**")) or "accumulated funding deficiency" (as defined in Section 302 of ERISA) or any of the events set forth in Section 4043(b) of ERISA (other than events with respect to which the thirty (30)-day notice requirement under Section 4043 of ERISA has been waived) has occurred or could reasonably be expected to occur with respect to any employee benefit plan of the Company or the Subsidiary which would, singularly or in the aggregate, reasonably be expected to have a Material Adverse Effect. Each employee benefit plan of the Company and the Subsidiary is in compliance in all material respects with applicable law, including ERISA and the Code. Neither the Company nor the Subsidiary has incurred or would reasonably be expected to incur liability under Title IV of ERISA with respect to the termination of, or withdrawal from, any pension plan (as defined in ERISA), which would, singularly or in the aggregate, reasonably be expected to have a Material Adverse Effect. Each pension plan for which the Company or the Subsidiary would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified, and nothing has occurred, whether by action or by failure to act, which would, singularly or in the aggregate, reasonably be expected to cause the loss of such qualification.

(ff) The Company and the Subsidiary are in compliance with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to its businesses (the “*Environmental Laws*”), except where such noncompliance would, singularly or in the aggregate, reasonably be expected to have a Material Adverse Effect. There has been no storage, generation, transportation, handling, treatment, disposal, discharge, emission, or other release of any kind of toxic or other wastes or other hazardous substances by, due to, or caused by the Company or the Subsidiary (or, to the Company’s Knowledge, any other entity for whose acts or omissions the Company or the Subsidiary is or may otherwise be liable) upon any of the property now or previously owned or leased by the Company or the Subsidiary, or upon any other property, in violation of any applicable law, statute, ordinance, rule, regulation, order, judgment, decree or permit or which would, under any law, statute, ordinance, rule (including rule of common law), regulation, order, judgment, decree or permit, give rise to any liability; and there has been no disposal, discharge, emission or other release of any kind on to such property or into the environment surrounding such property of any toxic or other wastes or other hazardous substances that, in each case would, singularly or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(gg) The Company (i) has filed all necessary federal, state, local and foreign tax returns (or filed extensions with respect to such returns), and all such returns were true, complete and correct, (ii) has paid all federal, state, local and foreign taxes, assessments, governmental or other charges due and payable, for which it is liable, including, without limitation, all sales and use taxes and all taxes which the Company is obligated to withhold from amounts owing to employees, creditors and third parties (except as currently being contested in good faith and for which reserves required by GAAP have been created in the financial statements), and (iii) does not have any tax deficiency or claims outstanding or assessed or, to its Knowledge, proposed against it, except those, in each of the cases described in clauses (i), (ii) and (iii) above, that would not, singularly or in the aggregate, reasonably be expected to have a Material Adverse Effect. The Company has not engaged in any transaction which is a corporate tax shelter or which could be reasonably characterized as such by the Internal Revenue Service or any other taxing authority. The accruals and reserves on the books and records of the Company in respect of tax liabilities for any taxable period not yet finally determined are adequate to meet any assessments and related liabilities for any such period, and since December 31, 2022, the Company has not incurred any liability for taxes other than in the ordinary course. There are no outstanding agreements or waivers extending the statutory period of limitation applicable to any federal, state, local or foreign tax return for any period.

(hh) The Company carries or is covered by, insurance in such amounts and covering such risks as is reasonable and customary for companies engaged in similar businesses, at a similar stage of development, in similar industries. The Company has no reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not reasonably be expected to have a Material Adverse Effect. All policies of insurance owned by the Company are, to the Company’s Knowledge, in full force and effect and the Company is in compliance in all material respects with the terms of such policies. Except as would not reasonably be expected to have a Material Adverse Effect, the Company has not received written notice from any insurer, agent of such insurer or the broker of the Company that any material capital improvements or any other material expenditures (other than premium payments) are required or necessary to be made in order to continue such insurance.

(ii) The Company maintains a system of “*internal control over financial reporting*” (as such term is defined in Rule 13a-15(f) of the General Rules and Regulations under the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”), such rules and regulations, the “*Exchange Act Rules*”) that complies with the requirements of the Exchange Act and has been designed by its principal executive and principal financial officers, or under their supervision, to provide reasonable assurances that (i) transactions are executed in accordance with management’s general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Since the end of the Company’s most recently audited fiscal year, there has been (A) no material weakness in the Company’s internal control over financial reporting (whether or not remediated) and (B) no change in the Company’s internal control over financial reporting that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company’s internal control over financial reporting. The Company’s internal control over financial reporting is overseen by the Audit Committee of the Board of Directors of the Company (the “*Audit Committee*”) in accordance with the Exchange Act Rules. Since December 31, 2022, the Company has not publicly disclosed or reported to the Audit Committee or to the Board, and within the next 90 days the Company does not reasonably expect to publicly disclose or report to the Audit Committee or the Board, a significant deficiency, material weakness, material and adverse change in internal control over financial reporting or fraud involving management or other employees who have a significant role in the internal control over financial reporting or any material violation of, or failure to comply in all material respects with, U.S. federal securities laws.

(jj) [Reserved.]

(kk) The Company maintains a system of “*disclosure controls and procedures*” (as such is defined in Rule 13a-15(e) of the Exchange Act Rules) that complies with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission’s rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company’s management as appropriate to allow timely decisions regarding required disclosures. The Company has conducted evaluations of the effectiveness of their disclosure controls and procedures as required by Rule 13a-15 of the Exchange Act, and such disclosure controls and procedures are effective at the reasonable assurance level to perform the functions for which they were established.

(ll) The minute books of the Company have been made available to counsel to the Underwriters, and such books (i) contain a complete summary of all meetings and written actions of the board of directors of the Company (the “*Board*”) (including each Board committee) and stockholders of the Company (or analogous governing bodies and interest holders, as applicable) since the time of its incorporation through the date of the latest meeting and action and (ii) accurately in all material respects reflect all transactions referred to in such minutes or written consents.

(mm) There is no franchise agreement, lease, contract, or other agreement or document required by the Securities Act or by the Rules and Regulations to be described in the General Disclosure Package or to be filed as an exhibit to the Registration Statement which is not so described or filed therein as required; and all descriptions of any such franchise agreements, leases, contracts, or other agreements or documents contained in the General Disclosure Package are accurate and complete descriptions of such documents in all material respects. Other than as described in the General Disclosure Package, no such franchise agreement, lease, contract or other agreement has been suspended or terminated for convenience or default by the Company or any of the other parties thereto, in each case except where such suspension or termination or notice thereof would, singularly or in the aggregate, reasonably be expected to have a Material Adverse Effect, and the Company has not received notice of and the Company does not have Knowledge of any such pending or threatened suspension or termination.

(nn) No relationship, direct or indirect, exists between or among the Company on the one hand, and the directors, officers, stockholders (or analogous interest holders), customers or suppliers of the Company or any of its affiliates on the other hand, which is required to be described in the General Disclosure Package and the Prospectus and which is not so described.

(oo) No person or entity has the right to require registration of shares of Common Stock or other securities of the Company because of the filing or effectiveness of the Registration Statement or otherwise, except for persons and entities who have expressly waived such right in writing or who have been given timely and proper written notice and have failed to exercise such right within the time or times required under the terms and conditions of such right. Except as described in the General Disclosure Package, there are no persons with registration rights or similar rights to have any securities registered by the Company under the Securities Act.

(pp) Neither the issuance, sale and delivery of the Securities nor the application of the proceeds thereof by the Company as described in the General Disclosure Package and the Prospectus will violate Regulation T, U or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

(qq) Other than this Agreement, the Company is not a party to any contract, agreement or understanding with any person that would give rise to a valid claim against the Company or the Underwriters for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Securities or any transaction contemplated by this Agreement, the Registration Statement, the General Disclosure Package or the Prospectus.

(rr) [Reserved.]

(ss) Since the date as of which information is given in the General Disclosure Package through the date hereof, and except for the obligations created by this Agreement and as set forth in the Pricing Prospectus, the Company has not (i) issued or granted any securities (x) other than options to purchase Common Stock or restricted stock units pursuant to the Company's stock option and incentive plan, the ESPP, or in accordance with Nasdaq Listing Rule 5635(c)(4), (y) upon exercise of stock options or the settlement of restricted stock units granted pursuant to the Company's stock option and incentive plan, the ESPP, or awards granted in accordance with Nasdaq Listing Rule 5635(c)(4), or (z) pursuant to any other arrangement described in the General Disclosure Package or the Prospectus, or, (ii) incurred any material liability or obligation, direct or contingent, other than liabilities and obligations which were incurred in the ordinary course of business, (iii) entered into any material transaction other than in the ordinary course of business or (iv) declared or paid any dividend on its capital stock.

(tt) All of the information provided to the Underwriters or to counsel for the Underwriters by the Company, its officers and directors and the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rule 5110 or 5121 (1) with respect to the Company, is true, correct and complete as of the date hereof and (2) with respect to all other persons except for the Company, to the Company's Knowledge, is true, correct and complete in all material respects as of the date hereof. The Company is an "experienced issuer" as defined in FINRA Rule 5110(j)(6) for purposes of the exemption from filing under FINRA Conduct Rule 5110(h)(1)(C).

(uu) The Company is not a Passive Foreign Investment Company (“**PFIC**”) within the meaning of Section 1296 of the Code.

(vv) No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in either the General Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(ww) There is and has been no failure on the part of the Company or, to the Company’s Knowledge, any of the Company’s officers or directors, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith (the “**Sarbanes-Oxley Act**”), including Section 402 related to loans and Sections 302 and 906 related to certifications.

(xx) (i) Neither of the Company or the Subsidiary or any director, officer, or employee thereof, or, to the Company’s Knowledge, any affiliate, agent or representative of the Company, the Subsidiary or of any of its or their affiliates acting on behalf of the Company or the Subsidiary, has taken or will take any action in furtherance of an offer, payment, promise to pay, or authorization or approval of the payment, giving or receipt of money, property, gifts or anything else of value, directly or indirectly, to any government official (including any officer or employee of a government or government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office) (“**Government Official**”) in order to influence official action, or to any person in violation of any applicable anti-corruption laws; (ii) the Company and the Subsidiary and, to the Company’s Knowledge, their respective affiliates, have conducted their businesses in compliance with applicable anti-corruption laws and have instituted and maintained and will continue to maintain policies and procedures reasonably designed to promote and achieve compliance with such laws and with the representations and warranties contained herein; and (iii) neither the Company nor the Subsidiary will use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-corruption laws.

(yy) There are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Rules and Regulations) and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity that would reasonably be expected to materially and adversely affect the Company’s liquidity or the availability of or requirements for its capital resources required to be described in the General Disclosure Package and the Prospectus which have not been described as required.

(zz) There are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees of indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of their respective family members. All transactions by the Company with office holders or control persons of the Company have been duly approved by the Board, or duly appointed Board committees or officers thereof, if and to the extent required under U.S. federal law.

(aaa) The statistical and market-related data included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate, and such data agree with the sources from which they are derived in all material respects.

(bbb) The operations of the Company and the Subsidiary are and have been conducted at all times in material compliance with all applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable anti-money laundering statutes of jurisdictions where the Company conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the “*Anti-Money Laundering Laws*”), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or the Subsidiary with respect to the Anti-Money Laundering Laws is pending or, to the Knowledge of the Company, threatened.

(ccc) None of the Company or the Subsidiary or any director, officer, or employee thereof, or, to the Company’s Knowledge, any agent, affiliate or representative of the Company or the Subsidiary, is an individual or entity (“*Person*”) that is, or is owned or controlled by one or more Persons that are: (A) the subject of any sanctions administered or enforced by the U.S. Department of Treasury’s Office of Foreign Assets Control (“*OFAC*”), the United Nations Security Council (“*UNSC*”), the European Union (“*EU*”), His Majesty’s Treasury (“*HMT*”), or other relevant sanctions authority (collectively, “*Sanctions*”), or (B) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Cuba, Iran, North Korea, Syria, and the Crimea, so-called Donetsk People’s Republic, and so-called Luhansk People’s Republic regions of Ukraine). Neither the Company nor the Subsidiary will, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise). Neither the Company nor the Subsidiary during the past five (5) years, has knowingly engaged in, is now knowingly engaged in, or will engage in, any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(ddd) Neither the Company nor, to the Company’s Knowledge, any of its affiliates (within the meaning of FINRA Rule 5121(f)(1)) directly or indirectly controls, is controlled by, or is under common control with, or is an associated person (within the meaning of Article I, Section 1(ee) of the By-laws of FINRA) of, any of the Underwriters.

(eee) The Company is subject to and in compliance in all material respects with the reporting requirements of Section 13 or Section 15(d) of the Exchange Act.

(fff) The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act and is listed on the Nasdaq Global Select Market. The Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the Nasdaq Global Select Market, nor has the Company received any notification that the Commission or the Nasdaq Global Select Market is contemplating terminating such registration or listing. To the Company’s knowledge, it is in compliance with all applicable listing requirements of Nasdaq Global Select Market.

Any certificate signed by or on behalf of the Company and delivered to the Representatives or to counsel to the Underwriters shall be deemed to be a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

3. *PURCHASE, SALE AND DELIVERY OF OFFERED SECURITIES.* On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company agrees to sell to the Underwriters, and the Underwriters agree, severally and not jointly, to purchase from the Company the respective number of Securities set forth opposite the names of the Underwriters in Schedule A hereto.

The (i) purchase price to be paid by the Underwriters to the Company for the Stock will be \$8.46 per share (the “**Stock Purchase Price**”) and (ii) purchase price to be paid by the Underwriters to the Company for the Warrants will be \$8.459 per Warrant (the “**Warrant Purchase Price**,” and together with the Stock Purchase Price, the “**Purchase Price**”).

The Company will (i) deliver the Firm Stock to the Representatives for the respective accounts of the several Underwriters, through the facilities of The Depository Trust Company, and (ii) deliver, or cause to be delivered, to the Representatives or to the purchasers thereof, the Warrants in definitive paper form, in accordance with the Underwriters’ instruction, on the Closing Date, in each such case, issued in such names and in such denominations as the Representatives may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, at least one full business day preceding the Closing Date against payment of the aggregate Purchase Price therefor by wire transfer in federal (same day) funds to an account at a bank acceptable to the Representatives payable to the order of the Company for the Firm Stock and the Warrants sold by them all at the offices of Cooley LLP, 55 Hudson Yards, New York, New York 10001-2157. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of each Underwriter hereunder. The time and date of the delivery and payment shall be at 10:00 A.M., New York time, on January 9, 2024, in accordance with Rule 15c6-1 of the Exchange Act. The time and date of such payment and delivery are herein referred to as the “**Closing Date**”. The Closing Date and the location of delivery of, and the form of payment for, the Firm Stock and the Warrants may be varied by agreement between the Company and the Representatives.

Notwithstanding the foregoing in this Section 3, the Company and the Representatives shall instruct purchasers of the Warrants in the public offering to make payment for the Warrants on the Closing Date to the Company by wire transfer in immediately available funds to the account specified by the Company at a purchase price of \$8.999 per Warrant, in lieu of payment by the Underwriters for such Warrants, and the Company shall deliver such Warrants to such purchasers on the Closing Date in definitive form against such payment, in lieu of the Company’s obligation to deliver such Warrants to the Underwriters; provided that, the underwriting discounts and commissions in respect of the Warrants, as calculated by subtracting the Warrant Purchase Price from the Public Offering Price per Warrant set forth on Schedule C hereto, shall be deducted and withheld from the amount otherwise payable by the Representatives to the Company for the Firm Shares as set forth above in this Section 3.

In the event that any purchaser of the Warrants in the public offering fails to make payment to the Company for all or part of the Warrants (the “**Failed Warrants**”) on the Closing Date, the Representatives may elect, by written notice to the Company and payment of the Stock Purchase Price by wire transfer in immediately available funds to the account specified by the Company at the location and time designated in this Section 3 for the Closing Date, to receive a number of shares of Common Stock equivalent to the number of Failed Warrants at the Stock Purchase Price in lieu of the Failed Warrants that were otherwise to have been delivered to the purchasers thereof under this Agreement.

The Underwriters may purchase all or less than all of the Optional Stock. The purchase price per share to be paid for the Optional Stock shall be the Stock Purchase Price; provided, however, that the amount paid by the Underwriters for any Optional Stock shall be reduced by an amount per share equal to any dividends declared by the Company and payable on the Stock but not payable on such Optional Stock. The Company agrees to sell to the Underwriters the number of shares of Optional Stock specified in the written notice delivered by the Representatives to the Company described below and the Underwriters agree, severally and not jointly, to purchase such shares of Optional Stock. Such shares of Optional Stock shall be purchased from the Company for the account of each Underwriter in the same proportion as the number of shares of Firm Stock set forth opposite such Underwriter's name on Schedule A bears to the total number of shares of Firm Stock (subject to adjustment by the Representatives to eliminate fractions). The option granted hereby may be exercised as to all or any part of the Optional Stock at any time, and from time to time, not more than thirty (30) days subsequent to the date of this Agreement. No Optional Stock shall be sold and delivered unless the Firm Stock previously has been, or simultaneously is being, sold and delivered. The right to purchase the Optional Stock or any portion thereof may be surrendered and terminated at any time upon notice by the Representatives to the Company.

The option granted hereby may be exercised by written notice being given to the Company by the Representatives setting forth the number of shares of the Optional Stock to be purchased by the Underwriters and the date and time for delivery of and payment for the Optional Stock. Each date and time for delivery of and payment for the Optional Stock (which may be the Closing Date, but not earlier) is herein called an "**Option Closing Date**" and shall in no event be earlier than two (2) business days nor later than five (5) business days after written notice is given. The Option Closing Date or Dates, if any, and the Closing Date are herein called the "**Closing Dates**."

The Company will deliver the Optional Stock to the Representatives for the respective accounts of the several Underwriters through the facilities of The Depository Trust Company or, at the election of the Representatives, in the form of definitive certificates, in each such case, issued in such names and in such denominations as the Representatives may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, at least one full business day preceding the Option Closing Date against payment of the aggregate Stock Purchase Price therefor by wire transfer in federal (same day) funds to an account at a bank specified by the Company and reasonably acceptable to the Underwriters, payable to the order of the Company, at the offices of Cooley LLP, 55 Hudson Yards, New York, New York 10001-2157. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of each Underwriter hereunder. The Option Closing Date and the location of delivery of, and the form of payment for, the Optional Stock may be varied by agreement between the Company and the Representatives.

The several Underwriters propose to offer the Securities for sale upon the terms and conditions set forth in the Prospectus.

4. **FURTHER AGREEMENTS OF THE COMPANY.** The Company agrees with the several Underwriters:

(a) To prepare the Rule 462(b) Registration Statement, if necessary, in a form approved by the Representatives and file such Rule 462(b) Registration Statement with the Commission by 10:00 P.M., New York time, on the date hereof, and the Company shall at the time of filing either pay to the Commission the filing fee for the Rule 462(b) Registration Statement or give irrevocable instructions for the payment of such fee pursuant to Rule 111(b) under the Rules and Regulations; to prepare the Prospectus in a form approved by the Representatives containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rules 430B of the Rules and Regulations and to file such Prospectus pursuant to Rule 424(b) of the Rules and Regulations not later than the second (2nd) business day following the execution and delivery of this Agreement or, if applicable, such earlier time as may be required by Rule 430B of the Rules and Regulations; to notify the Representatives promptly of the Company's intention to file or prepare any supplement or amendment to any Registration Statement or to the Prospectus and to make no amendment or supplement to the Registration Statement, the General Disclosure Package or to the Prospectus to which the Representatives shall reasonably object by notice to the Company after a reasonable period to review; to advise the Representatives, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any supplement to the General Disclosure Package or the Prospectus or any amended Prospectus or any Issuer Free Writing Prospectus has been filed and to furnish the Underwriters with copies thereof; to file promptly all material required to be filed by the Company with the Commission pursuant to Rules 433(d) or 163(b)(2) of the Rules and Regulations; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) is required in connection with the offering or sale of the Securities; to advise the Representatives, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement, the General Disclosure Package or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus or suspending any such qualification, and promptly to use its best efforts to obtain the withdrawal of such order.

(b) The Company represents and agrees that, unless it obtains the prior consent of the Representatives, and each Underwriter represents and agrees that, unless it obtains the prior consent of the Company and the Representatives, it has not made and will not, make any offer relating to the Securities that would constitute a “free writing prospectus” as defined in Rule 405 of the Rules and Regulations (each, a “**Permitted Free Writing Prospectus**”); *provided* that the prior written consent of the Representatives hereto shall be deemed to have been given in respect of the Issuer Free Writing Prospectuses included in Schedule B hereto. The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Issuer Free Writing Prospectus, including the requirements relating to timely filing with the Commission, legending and record keeping and will not take any action that would result in an Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) of the Rules and Regulations a free writing prospectus prepared by or on behalf of such Underwriter that such Underwriter otherwise would not have been required to file thereunder. The Company will satisfy the condition in Rule 433 of the Rules and Regulations to avoid a requirement to file with the Commission any electronic road show.

(c) When a prospectus relating to the Securities is required to be delivered under the Securities Act (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) in connection with sales of the Securities by any Underwriter or dealer (the “**Prospectus Delivery Period**”), any event occurs or condition exists as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact, or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made when the Prospectus is delivered (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations), not misleading, or if it is necessary at any time to amend or supplement the Registration Statement or the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus to comply with the Securities Act, that the Company will promptly notify the Representatives thereof and upon their request will prepare an appropriate amendment or supplement in form and substance satisfactory to the Representatives, which will correct such statement or omission or effect such compliance and will use its reasonable best efforts to have any amendment to any Registration Statement declared effective as soon as possible. During the Prospectus Delivery Period, the Company will furnish without charge to each Underwriter and to any dealer in securities as many copies as the Representatives may from time to time reasonably request of such amendment or supplement.

(d) If the General Disclosure Package is being used to solicit offers to buy the Securities at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Underwriters, it becomes necessary to amend or supplement the General Disclosure Package in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, or to make the statements therein not conflict with the information contained in the Registration Statement then on file and not superseded or modified, or if it is necessary at any time to amend or supplement the General Disclosure Package to comply with any law, the Company promptly will either prepare, file with the Commission (if required) and furnish to the Underwriters and any dealers an appropriate amendment or supplement to the General Disclosure Package or prepare and file with the Commission an appropriate filing under the Exchange Act which shall be incorporated by reference in the General Disclosure Package so that the General Disclosure Package, as so amended or supplemented, will not, in the light of the circumstances then prevailing, be misleading or conflict with the Registration Statement then on file, or so that the General Disclosure Package will comply with law.

(e) If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or will conflict with the information contained in the Registration Statement, Pricing Prospectus or Prospectus and not superseded or modified or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading, the Company has promptly notified or will promptly notify the Representatives so that any use of the Issuer Free Writing Prospectus may cease until it is amended or supplemented and has promptly amended or will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission. The foregoing sentence does not apply to statements in or omissions from any Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriters' Information.

(f) To the extent not available on the Commission's Electronic Data Gathering, Analysis and Retrieval system or any successor system ("**EDGAR**"), upon the request of the Representatives, to furnish promptly to the Representatives and to counsel for the Underwriters a signed copy of the Registration Statement as originally filed with the Commission, and of each amendment thereto filed with the Commission, including all consents and exhibits filed therewith.

(g) Upon the request of the Representatives, to the extent not available on EDGAR, to deliver promptly to the Representatives in New York City such number of the following documents as the Representatives shall reasonably request: (i) conformed copies of the Registration Statement as originally filed with the Commission (in each case excluding exhibits), (ii) each Preliminary Prospectus, (iii) any Issuer Free Writing Prospectus, (iv) the Prospectus (the delivery of the documents referred to in clauses (i), (ii), (iii) and (iv) of this paragraph (g) to be made not later than 10:00 A.M., New York City time, on the business day following the execution and delivery of this Agreement), (v) conformed copies of any amendment to the Registration Statement (excluding exhibits), (vi) any amendment or supplement to the General Disclosure Package or the Prospectus (the delivery of the documents referred to in clauses (v) and (vi) of this paragraph (g) to be made not later than 10:00 A.M., New York City time, on the business day following the date of such amendment or supplement) and (vii) any document incorporated by reference in the General Disclosure Package or the Prospectus (excluding exhibits thereto) (the delivery of the documents referred to in clause (vi) of this paragraph (g) to be made not later than 10:00 A.M., New York City time, on the business day following the date of such document).

(h) To make generally available to its stockholders as soon as practicable, but in any event not later than sixteen (16) months after the effective date of each Registration Statement (as defined in Rule 158(c) of the Rules and Regulations), an earnings statement of the Company (which need not be audited) complying with Section 11(a) of the Securities Act (including, at the option of the Company, Rule 158). The Company, during the Prospectus Delivery Period, will file all documents required to be filed with the Commission pursuant to the Exchange Act within the time periods required by the Exchange Act and Exchange Act Rules.

(i) To take promptly from time to time such actions as the Representatives may reasonably request to qualify the Securities for offering and sale under the securities or Blue Sky laws of such jurisdictions (domestic or foreign) as the Representatives may reasonably designate and to continue such qualifications in effect, and to comply with such laws, for so long as required to permit the offer and sale of Securities in such jurisdictions; *provided* that the Company shall not be obligated to (i) qualify as a foreign corporation in any jurisdiction in which it is not so qualified, (ii) file a general consent to service of process in any jurisdiction or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(j) Upon request, during the period of five (5) years from the date hereof, to deliver to each of the Underwriters, (i) as soon as they are available, copies of all reports or other communications (financial or other) furnished to stockholders of the Company, and (ii) as soon as they are available, copies of any reports and financial statements furnished or filed with the Commission or any national securities exchange on which the Stock and any Warrant Stock is listed. However, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act and is timely filing reports with the Commission on its EDGAR system, it is not required to furnish such reports or statements to the Underwriters.

(k) During the period commencing on and including the date hereof and ending on and including the forty-fifth (45th) day following the date of this Agreement (as the same may be extended as described below, the “*Lock-Up Period*”) the Company will not, without the prior written consent of Citi and Guggenheim (which consent may be withheld at the sole discretion of Citi or Guggenheim), 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 the Company may (i) sell the Securities pursuant to this Agreement and deliver the Warrant Stock upon exercise of the Warrants; (ii) issue Common Stock and options to purchase Common Stock, restricted stock units, 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 the Company or pursuant to awards granted in accordance with Nasdaq Listing Rule 5635(c)(4) in effect on the date hereof and described in the General Disclosure Package, grant additional awards in accordance with Nasdaq Listing Rule 5635(c)(4), or issue Common Stock pursuant to the Novartis SPA; (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 the Company in effect on the date hereof 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 described in Section 6(o) hereof 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 the Company’s “at-the-market” offering program pursuant to that certain Sales Agreement, by and between the Company 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 the Optional Stock and (ii) 30 calendar days after the date of this Agreement; and *provided, further*, that the Company shall 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, to 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 agreements described in Section 6(o) hereof to the extent and for the duration that such terms remain in effect at the time of the transfer.

(l) To supply the Representatives with copies of all correspondence to and from, and all documents issued to and by, the Commission in connection with the registration of the Securities under the Securities Act or any Registration Statement, any Preliminary Prospectus or the Prospectus, or any amendment or supplement thereto.

(m) Prior to the latest of the Closing Dates, not to issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Representatives are notified), without the prior written consent of the Representatives, unless in the judgment of the Company and its counsel, and after notification to the Representatives, such press release or communication is required by law.

(n) Until the Representatives shall have notified the Company of the completion of the resale of the Securities, that the Company will not, and will use its reasonable best efforts to cause its affiliated purchasers (as defined in Regulation M under the Exchange Act Rules) not to, either alone or with one or more other persons, bid for or purchase, for any account in which it or any of its affiliated purchasers has a beneficial interest, any Securities, or attempt to induce any person to purchase any Securities; and not to, and to use its reasonable best efforts to cause its affiliated purchasers not to, make bids or purchases for the purpose of creating actual, or apparent, active trading in or of raising the price of the Securities.

(o) Not to take any action prior to the latest of the Closing Dates which would require the Prospectus to be amended or supplemented pursuant to Section 4(c).

(p) To at all times comply in all material respects with all applicable provisions of the Sarbanes-Oxley Act in effect from time to time and to file with the Commission such information on Form 10-Q or Form 10-K as may be required by Rule 463 of the Rules and Regulations.

(q) To maintain, at its expense, a registrar and transfer agent for the Securities.

(r) To apply the net proceeds from the sale of the Securities as set forth in the Registration Statement, the General Disclosure Package and the Prospectus under the heading "Use of Proceeds," and the Company does not intend to use any of the proceeds from the sale of the Securities hereunder to repay any outstanding debt owed to any affiliate of any Underwriter. The Company shall manage its affairs and investments in such a manner as not to be or become an "investment company" within the meaning of the Investment Company Act and the rules and regulations thereunder.

(s) To use its reasonable best efforts to list, subject to notice of issuance, the Stock and any Warrant Stock on the Exchange.

(t) To use its reasonable best efforts to do and perform all things required to be done or performed under this Agreement by the Company prior to each Closing Date and to satisfy all conditions precedent to the delivery of the Firm Stock, the Warrants and the Optional Stock.

(u) Upon request of any Underwriter, to furnish, or cause to be furnished, to such Underwriter an electronic version of the Company's trademarks, service marks and corporate logo for use on the website, if any, operated by such Underwriter for the purpose of facilitating the on-line offering of the Securities (the "**License**"); *provided, however* that the License shall be used solely for the purpose described above, is granted without any fee and may not be assigned or transferred.

(v) To cooperate with the Underwriters and use its best efforts to permit the Stock to be eligible for clearance and settlement through The Depository Trust Company.

(w) At all times while any Warrants are outstanding, to reserve and keep available out of its authorized but unissued and otherwise unreserved shares of Common Stock, solely for the purpose of enabling it to issue Warrant Stock upon exercise of such Warrants, the number of shares of Warrant Stock that are initially issuable and deliverable upon the exercise of the then outstanding Warrants.

5. **PAYMENT OF EXPENSES.** The Company agrees to pay, or reimburse if paid by any Underwriter, whether or not the transactions contemplated hereby are consummated or this Agreement is terminated: (a) the costs incident to the authorization, issuance, sale, preparation and delivery of the Securities pursuant to this Agreement or the execution and delivery of this Agreement and any stock transfer, stamp, documentary or similar taxes or duties (including any interest and penalties thereon) payable in that connection; (b) the costs incident to the registration of the Securities under the Securities Act; (c) the costs incident to the preparation, printing and distribution of the Registration Statements, any Preliminary Prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package, the Prospectus, any amendments, supplements and exhibits thereto or any document incorporated by reference therein and the costs of printing, reproducing and distributing the "Agreement Among Underwriters" among the Representatives and the Underwriters, the Master Selected Dealers' Agreement, the Underwriters' questionnaire, this Agreement and any closing documents by mail, telex or other means of communications; (d) the documented fees and expenses (including related fees and expenses of counsel for the Underwriters) incurred in connection with securing any required review by FINRA of the terms of the sale of the Securities and any filings made with FINRA, in an amount not to exceed \$20,000; (e) any applicable listing or other fees; (f) the fees and expenses (including related fees and expenses of counsel to the Underwriters that are reasonable and documented) of qualifying the Securities under the securities laws of the several jurisdictions) and of preparing, printing and distributing wrappers, Blue Sky memoranda and legal investment surveys; (g) the cost of preparing and printing stock certificates and paper forms of the Warrants; (h) all fees and expenses of the registrar and transfer agent of the Securities; (i) the costs and expenses (including, without limitation, any damages or other amounts payable in connection with the legal or contractual liability) associated with the reforming of any contracts for sale of the Securities made by the Underwriters caused by a breach of the representation contained in Section 2(b), (j) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the offering of the Securities, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the officers of the Company and such consultants, and (k) all other costs and expenses of the Company incident to the offering of the Securities or the performance of the obligations of the Company under this Agreement (including, without limitation, the fees and expenses of the Company's counsel and the Company's independent accountants); *provided* that, except to the extent otherwise provided in this Section 5 and in Sections 9 and 10, the Underwriters shall pay their own costs and expenses, including the fees and expenses of their counsel not contemplated herein on the resale of any Securities by them and the expenses of advertising any offering of the Securities made by the Underwriters.

6. *CONDITIONS OF UNDERWRITERS' OBLIGATIONS.* The respective obligations of the several Underwriters hereunder are subject to the accuracy, when made and as of the Applicable Time and on each Closing Date, of the representations and warranties of the Company contained herein, to the accuracy of the statements of the Company made in any certificates pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder, and to each of the following additional terms and conditions:

(a) The Registration Statement has become effective under the Securities Act, and no stop order suspending the effectiveness of the Registration Statement or any part thereof, preventing or suspending the use of any Preliminary Prospectus, the Prospectus or any Permitted Free Writing Prospectus or any part thereof shall have been issued and no proceedings for that purpose or pursuant to Section 8A under the Securities Act shall have been initiated or threatened by the Commission, and all requests for additional information on the part of the Commission (to be included in the Registration Statement or the Prospectus or otherwise) shall have been complied with to the reasonable satisfaction of the Representatives; the Rule 462(b) Registration Statement, if any, each Issuer Free Writing Prospectus and the Prospectus shall have been filed with the Commission within the applicable time period prescribed for such filing by, and in compliance with, the Rules and Regulations and in accordance with Section 4(a), and the Rule 462(b) Registration Statement, if any, shall have become effective immediately upon its filing with the Commission and FINRA shall have raised no unresolved objection to the fairness and reasonableness of the terms of this Agreement or the transactions contemplated hereby.

(b) None of the Underwriters shall have discovered and disclosed to the Company on or prior to such Closing Date that the Registration Statement or any amendment or supplement thereto contains an untrue statement of a fact which, in the opinion of counsel for the Underwriters, is material or omits to state any fact which, in the opinion of such counsel, is material and is required to be stated therein or is necessary to make the statements therein not misleading, or that the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus or any amendment or supplement thereto contains an untrue statement of fact which, in the opinion of such counsel, is material or omits to state any fact which, in the opinion of such counsel, is material and is necessary in order to make the statements, in the light of the circumstances in which they were made, not misleading.

(c) All corporate proceedings and other legal matters incident to the authorization, form and validity of each of this Agreement, the Securities, the Registration Statement, the General Disclosure Package, each Issuer Free Writing Prospectus and the Prospectus and all other legal matters relating to this Agreement and the transactions contemplated hereby shall be reasonably satisfactory in all material respects to counsel to the Underwriters, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

(d) Wilmer Cutler Pickering Hale and Dorr LLP shall have furnished to the Representatives such counsel's written opinion and negative assurance letter, as counsel to the Company, each addressed to the Underwriters and each dated as of such Closing Date, in form and substance reasonably satisfactory to the Representatives.

(e) Each of K&L Gates LLP and Nelson Mullins Riley & Scarborough LLP shall have furnished to the Representatives such counsel's written opinion, as intellectual property counsels to the Company, addressed to the Underwriters and each dated as of such Closing Date, in form and substance reasonably satisfactory to the Representatives.

(f) The Representatives shall have received from Cooley LLP, counsel for the Underwriters, such opinion or opinions, dated as of such Closing Date, with respect to such matters as the Underwriters may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

(g) At the time of the execution of this Agreement, the Representatives shall have received from Ernst & Young LLP, a letter, addressed to the Underwriters, executed and dated such date, in form and substance satisfactory to the Representatives (i) confirming that they are an independent registered accounting firm with respect to the Company within the meaning of the Securities Act and the Rules and Regulations and PCAOB and (ii) stating the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial statements and certain financial information contained or incorporated by reference in the Registration Statements, the General Disclosure Package and the Prospectus.

(h) On the effective date of any post-effective amendment to the Registration Statement and on such Closing Date, the Representatives shall have received a letter (the "**bring-down letter**") from Ernst & Young LLP addressed to the Underwriters and dated such Closing Date confirming, as of the date of the bring-down letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the General Disclosure Package and the Prospectus, as the case may be, as of a date not more than three (3) business days prior to the date of the bring-down letter), the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial information and other matters covered by its letter delivered to the Representatives concurrently with the execution of this Agreement pursuant to paragraph (g) of this Section 6.

(i) The Company shall have furnished to the Representatives a certificate, dated such Closing Date, of its Chief Executive Officer and Chief Financial Officer, or an officer acting in a similar capacity, stating in their respective capacities as officers of the Company on behalf of the Company and not in their individual capacities that (i) no stop order suspending the effectiveness of the Registration Statement (including, for avoidance of doubt, any Rule 462(b) Registration Statement), or any post-effective amendment thereto, shall be in effect and no proceedings for such purpose shall have been instituted or, to their knowledge, threatened by the Commission, (ii) for the period from and including the date of this Agreement through and including such Closing Date, there has not occurred any Material Adverse Effect, (iii) to their knowledge, after reasonable investigation, as of such Closing Date, the representations and warranties of the Company in this Agreement are true and correct, and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to such Closing Date, and (iv) there has not been, subsequent to the date of the most recent audited consolidated financial statements included or incorporated by reference in the General Disclosure Package, any Material Adverse Effect in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would reasonably be expected to involve a Material Adverse Effect, except as set forth in the General Disclosure Package and the Prospectus.

(j) Since the date of the most recently audited consolidated financial statements included or incorporated by reference in the General Disclosure Package, (i) the Company shall not have sustained any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth in the General Disclosure Package, and (ii) there shall not have been any change in the capital stock (other than stock option exercises, settlements of restricted stock units, and stock repurchases in the ordinary course of business and the issuance of Common Stock pursuant to the Novartis SPA) or long-term debt of the Company, or any change, or any development involving a prospective change, in or affecting the business, assets, general affairs, financial position, stockholders' equity or results of operations of the Company, otherwise than as set forth in the General Disclosure Package or the Prospectus, the effect of which, in any such case described in clause (i) or (ii) of this paragraph 6(j), is, in the judgment of the Representatives, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or delivery of the Securities on the terms and in the manner contemplated in the General Disclosure Package.

(k) No action shall have been taken and no law, statute, rule, regulation or order shall have been enacted, adopted or issued by any governmental or regulatory authority that would prevent the issuance or sale of the Securities or materially and adversely affect the business or operations of the Company; and no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued which would prevent the issuance or sale of the Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company.

(l) Subsequent to the execution and delivery of this Agreement there shall not have occurred any of the following: (i) trading in any of the Company's securities shall have been suspended or materially limited by the Commission or the Exchange, or trading in securities generally on the New York Stock Exchange, Nasdaq Global Select Market, Nasdaq Global Market, Nasdaq Capital Market or the NYSE American LLC or in the over-the-counter market, or trading in any securities of the Company on any exchange or in the over-the-counter market, shall have been suspended or materially limited, or minimum or maximum prices or maximum range for prices shall have been established on any such exchange or such market by the Commission, by such exchange or market or by any other regulatory body or governmental authority having jurisdiction, (ii) a banking moratorium shall have been declared by Federal or state authorities or a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States, (iii) the United States shall have become engaged in hostilities, or the subject of an act of terrorism, or there shall have been an outbreak of or escalation in hostilities involving the United States, or there shall have been a declaration of a national emergency or war by the United States or (iv) there shall have occurred such a material adverse change in general economic, political or financial conditions (or the effect of international conditions on the financial markets in the United States shall be such) as to make it, in the judgment of the Representatives, impracticable or inadvisable to proceed with the sale or delivery of the Securities on the terms and in the manner contemplated in the General Disclosure Package and the Prospectus.

(m) The Representatives shall have received on and as of such Closing Date satisfactory evidence of the good standing of the Company in its jurisdiction of organization and its good standing as a foreign corporation in such other jurisdictions as the Representatives may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdictions.

(n) The Representatives shall have received the written agreements, substantially in the form of Exhibit I hereto, of the Company's officers, directors, and certain stockholders of the Company listed in Schedule D to this Agreement.

(o) The Company shall have furnished to the Representatives a Secretary's Certificate of the Company, in form and substance reasonably satisfactory to counsel to the Underwriters and customary for the type of offering contemplated by this Agreement.

(p) The Company shall have furnished to the Representatives a certificate, dated such Closing Date, of its Chief Financial Officer, or an officer acting in a similar capacity, in form and substance reasonably satisfactory to the Representatives.

(q) The Representatives shall have received a form of the Warrant, in form and substance reasonably satisfactory to the Representatives.

(r) On or prior to such Closing Date, the Company shall have furnished to the Representatives such further certificates and documents as the Representatives may reasonably request.

All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Underwriters.

7. *INDEMNIFICATION AND CONTRIBUTION.*

(a) The Company shall indemnify and hold harmless each Underwriter and its affiliates, directors, officers, managers, members, employees, representatives and agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the "**Underwriter Indemnified Parties**," and each an "**Underwriter Indemnified Party**") against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Underwriter Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (A) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any Registration Statement, the Prospectus, or in any amendment or supplement thereto or document incorporated by reference therein or in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Common Stock, including any road show or investor presentations made to investors by the Company (whether in person or electronically) ("**Marketing Materials**") or (B) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any Registration Statement or the Prospectus, or in any amendment or supplement thereto or document incorporated by reference therein or in any Marketing Materials, a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading (as it applies to Prospectus and not to the Registration Statement), and shall reimburse each Underwriter Indemnified Party promptly upon demand for any legal fees or other expenses reasonably incurred by that Underwriter Indemnified Party in connection with investigating, or preparing to defend, or defending against, or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding, as such fees and expenses are incurred; *provided, however*, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage, expense or liability arises out of or is based upon an untrue statement or alleged untrue statement in, or omission or alleged omission from any Preliminary Prospectus, any Registration Statement or the Prospectus, or any such amendment or supplement thereto, any Issuer Free Writing Prospectus or any Marketing Materials made in reliance upon and in conformity with the Underwriter's Information. Each indemnity agreement in this Section 7(a) is not exclusive and is in addition to each other indemnity agreement in this Section 7(a) and each other liability which the Company might have under this Agreement or otherwise, and shall not limit any rights or remedies which may otherwise be available under this Agreement, at law or in equity to any Underwriter Indemnified Party.

(b) Each Underwriter, severally and not jointly, shall indemnify and hold harmless the Company and its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the “*Company Indemnified Parties*” and each a “*Company Indemnified Party*”) against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Company Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, or (ii) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading (as it applies to Prospectus and not to the Registration Statement), but in each case only to the extent that the untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company through the Representatives by or on behalf of that Underwriter specifically for use therein, which information the parties hereto agree is limited to the Underwriters’ Information, and shall reimburse the Company Indemnified Parties for any legal or other expenses reasonably incurred by such party in connection with investigating or preparing to defend or defending against or appearing as a third-party witness in connection with any such loss, claim, damage, liability, action, investigation or proceeding, as such fees and expenses are incurred. This indemnity agreement is not exclusive and will be in addition to any liability which the Underwriters might otherwise have and shall not limit any rights or remedies which may otherwise be available under this Agreement, at law or in equity to the Company Indemnified Parties.

(c) Promptly after receipt by an indemnified party under this Section 7 of notice of the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against an indemnifying party under this Section 7, notify such indemnifying party in writing of the commencement of that action; *provided, however*, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 7 except to the extent it has been materially prejudiced by such failure; and *provided, further*, that the failure to notify an indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 7. If any such action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense of such action with counsel reasonably satisfactory to the indemnified party (which counsel shall not, except with the written consent of the indemnified party, be counsel to the indemnifying party). After notice from the indemnifying party to the indemnified party of its election to assume the defense of such action, except as provided herein, the indemnifying party shall not be liable to the indemnified party under Section 7 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense of such action other than reasonable costs of investigation; *provided, however*, that any indemnified party shall have the right to employ separate counsel in any such action and to participate in the defense of such action but the fees and expenses of such counsel (other than reasonable costs of investigation) shall be at the expense of such indemnified party unless (i) the employment thereof has been specifically authorized in writing by the Company in the case of a claim for indemnification under Section 7(a) or the Representatives in the case of a claim for indemnification under Section 7(b), (ii) such indemnified party shall have been advised by its counsel that there may be one or more legal defenses available to it which are different from or additional to those available to the indemnifying party, or (iii) the indemnifying party has failed to assume the defense of such action and employ counsel reasonably satisfactory to the indemnified party within a reasonable period of time after notice of the commencement of the action or the indemnifying party does not diligently defend the action after assumption of the defense, in which case, if such indemnified party notifies the indemnifying party in writing that it elects to employ separate counsel at the expense of the indemnifying party, the indemnifying party shall not have the right to assume the defense of (or, in the case of a failure to diligently defend the action after assumption of the defense, to continue to defend) such action on behalf of such indemnified party and the indemnifying party shall be responsible for legal or other expenses subsequently incurred by such indemnified party in connection with the defense of such action; *provided, however*, that the indemnifying party shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys at any time for all such indemnified parties (in addition to any local counsel), which firm shall be designated in writing by the Representatives if the indemnified parties under this Section 7 consist of any Underwriter Indemnified Party or by the Company if the indemnified parties under this Section 7 consist of any Company Indemnified Parties. Subject to this Section 7(c), the amount payable by an indemnifying party under Section 7 shall include, but not be limited to, (x) reasonable and documented legal fees and expenses of counsel to the indemnified party and any other expenses in investigating, or preparing to defend or defending against, or appearing as a third-party witness in respect of, or otherwise incurred in connection with, any action, investigation, proceeding or claim, and (y) all amounts paid in settlement of any of the foregoing. No indemnifying party shall, without the prior written consent of the indemnified parties (which consent shall not be unreasonably withheld or delayed), settle or compromise or consent to the entry of judgment with respect to any pending or threatened action or any claim whatsoever, in respect of which indemnification or contribution could be sought under this Section 7 (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party in form and substance reasonably satisfactory to such indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party. Subject to the provisions of the following sentence, no indemnifying party shall be liable for settlement of any pending or threatened action or any claim whatsoever that is effected without its written consent (which consent shall not be unreasonably withheld or delayed), but if settled with its written consent, if its consent has been unreasonably withheld or delayed or if there be a judgment for the plaintiff in any such matter, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss or liability by reason of such settlement or judgment. In addition, if at any time an indemnified party shall have requested that an indemnifying party reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 7(a) effected without its written consent if (i) such settlement is entered into more than forty-five (45) days after receipt by such indemnifying party of the request for reimbursement, (ii) such indemnifying party shall have received notice of the terms of such settlement at least thirty (30) days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

(d) If the indemnification provided for in this Section 7 is unavailable or insufficient to hold harmless an indemnified party under Section 7(a) or 7(b), then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid, payable or otherwise incurred by such indemnified party as a result of such loss, claim, damage, expense or liability (or any action, investigation or proceeding in respect thereof), as incurred, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Securities, or (ii) if the allocation provided by clause (i) of this Section 7(d) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) of this Section 7(d) but also the relative fault of the Company on the one hand and the Underwriters on the other with respect to the statements, omissions, acts or failures to act which resulted in such loss, claim, damage, expense or liability (or any action, investigation or proceeding in respect thereof) as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other with respect to such offering shall be deemed to be in the same proportion as the total net proceeds from the offering of the Securities purchased under this Agreement (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters with respect to the Securities purchased under this Agreement, in each case as set forth in the table on the cover page of the Prospectus. The relative fault of the Company on the one hand and the Underwriters on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such untrue statement, omission, act or failure to act; *provided* that the parties hereto agree that the written information furnished to the Company through the Representatives by or on behalf of the Underwriters for use in the Preliminary Prospectus, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, consists solely of the Underwriters' Information.

(e) The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to Section 7(d) above were to be determined by pro rata allocation or by any other method of allocation which does not take into account the equitable considerations referred to in Section 7(d) above. The amount paid or payable by an indemnified party as a result of the loss, claim, damage, expense, liability, action, investigation or proceeding referred to in Section 7(d) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating, preparing to defend or defending against or appearing as a third-party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding. Notwithstanding the provisions of this Section 7, no Underwriter shall be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Securities exceeds the amount of any damages which the Underwriter has otherwise paid or become liable to pay by reason of any untrue or alleged untrue statement, omission or alleged omission, act or alleged act or failure to act or alleged failure to act. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute as provided in this Section 7 are several in proportion to their respective underwriting obligations and not joint.

8. *TERMINATION.* The obligations of the Underwriters hereunder may be terminated by the Representatives, in their absolute discretion by notice given to the Company prior to delivery of and payment for the Firm Stock and Warrants if, prior to that time, any of the events described in Sections 6(j) or 6(l) have occurred or if the Underwriters shall decline to purchase the Securities for any reason permitted under this Agreement.

9. *REIMBURSEMENT OF UNDERWRITERS' EXPENSES.* Notwithstanding anything to the contrary in this Agreement, if (a) this Agreement shall have been terminated pursuant to Section 8 or 10, (b) the Company shall fail to tender the Securities for delivery to the Underwriters for any reason not permitted under this Agreement, or in the case of the Warrants, to the purchaser thereof, (c) the Underwriters shall decline to purchase the Securities for any reason permitted under this Agreement or (d) the sale of the Securities is not consummated because any condition to the obligations of the Underwriters set forth herein is not satisfied or because of the refusal, inability or failure on the part of the Company to perform any agreement herein or to satisfy any condition or to comply with the provisions hereof, then in addition to the payment of amounts in accordance with Section 5, the Company shall reimburse the Underwriters for the reasonable fees and expenses of Underwriters' counsel and for such other out-of-pocket expenses as shall have been reasonably incurred by them in connection with this Agreement and the proposed purchase of the Securities, including, without limitation, travel and lodging expenses of the Underwriters, and upon demand the Company shall pay the full amount thereof to the Representatives; *provided* that if this Agreement is terminated pursuant to Section 10 by reason of the default of one or more Underwriters, the Company shall not be obligated to reimburse any defaulting Underwriter on account of expenses to the extent incurred by such defaulting Underwriter; *provided further* that the foregoing shall not limit any reimbursement obligation of the Company to any non-defaulting Underwriter under this Section 9.

10. *SUBSTITUTION OF UNDERWRITERS.* If any Underwriter or Underwriters shall default in its or their obligations to purchase the Securities hereunder on any Closing Date and the aggregate number of Securities which such defaulting Underwriter or Underwriters agreed but failed to purchase does not exceed ten percent (10%) of the total number of Securities to be purchased by all Underwriters on such Closing Date, the other Underwriters shall be obligated severally, in proportion to their respective commitments hereunder, to purchase the Securities which such defaulting Underwriter or Underwriters agreed but failed to purchase on such Closing Date. If any Underwriter or Underwriters shall so default and the aggregate number of Securities with respect to which such default or defaults occur is more than ten percent (10%) of the total number of Securities to be purchased by all Underwriters on such Closing Date and arrangements satisfactory to the Representatives and the Company for the purchase of such Securities by other persons are not made within forty-eight (48) hours after such default, this Agreement shall terminate.

If the remaining Underwriters or substituted Underwriters are required hereby or agree to take up all or part of the Securities of a defaulting Underwriter or Underwriters on such Closing Date as provided in this Section 10, (i) the Company shall have the right to postpone such Closing Dates for a period of not more than five (5) full business days in order that the Company may effect whatever changes may thereby be made necessary in the Registration Statements or the Prospectus, or in any other documents or arrangements, and the Company agrees promptly to file any amendments to the Registration Statements or supplements to the Prospectus which may thereby be made necessary, and (ii) the respective numbers of Securities to be purchased by the remaining Underwriters or substituted Underwriters shall be taken as the basis of their underwriting obligation for all purposes of this Agreement. Nothing herein contained shall relieve any defaulting Underwriter of its liability to the Company or the other Underwriters for damages occasioned by its default hereunder. Any termination of this Agreement pursuant to this Section 10 shall be without liability on the part of any non-defaulting Underwriter or the Company, except that the representations, warranties, covenants, indemnities, agreements and other statements set forth in Section 2, the obligations with respect to expenses to be paid or reimbursed pursuant to Sections 5 and 9 and the provisions of Section 7 and Sections 11 through 22, inclusive, shall not terminate and shall remain in full force and effect.

11. *ABSENCE OF FIDUCIARY RELATIONSHIP.* The Company acknowledges and agrees that:

(a) each Underwriter's responsibility to the Company is solely contractual in nature, the Representatives have been retained solely to act as underwriters in connection with the sale of the Securities and no fiduciary, advisory or agency relationship between the Company and the Representatives have been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether any of the Representatives has advised or is advising the Company on other matters;

(b) the price of the Securities set forth in this Agreement was established by the Company following discussions and arm's-length negotiations with the Representatives, and the Company is capable of evaluating and understanding, and understands and accepts, the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) it has been advised that the Representatives and their affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Representatives have no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) it waives, to the fullest extent permitted by law, any claims it may have against the Representatives for breach of fiduciary duty or alleged breach of fiduciary duty and agrees that the Representatives shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

12. *SUCCESSORS; PERSONS ENTITLED TO BENEFIT OF AGREEMENT.* This Agreement shall inure to the benefit of and be binding upon the several Underwriters, the Company and their respective successors and assigns. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, other than the persons mentioned in the preceding sentence, any legal or equitable right, remedy or claim under or in respect of this Agreement, or any provisions herein contained, this Agreement and all conditions and provisions hereof being intended to be and being for the sole and exclusive benefit of such persons and for the benefit of no other person; except that the representations, warranties, covenants, agreements and indemnities of the Company contained in this Agreement shall also be for the benefit of the Underwriter Indemnified Parties, and the indemnities of the several Underwriters shall be for the benefit of the Company Indemnified Parties. It is understood that each Underwriter's responsibility to the Company is solely contractual in nature and the Underwriters do not owe the Company, or any other party, any fiduciary duty as a result of this Agreement. No purchaser of any of the Securities from any Underwriter shall be deemed to be a successor or assign by reason merely of such purchase.

13. *SURVIVAL OF INDEMNITIES, REPRESENTATIONS, WARRANTIES, ETC.* The respective indemnities, covenants, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by them respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter, the Company or any person controlling any of them and shall survive delivery of and payment for the Securities. Notwithstanding any termination of this Agreement, including without limitation any termination pursuant to Section 8 or Section 10, the indemnities, covenants, agreements, representations, warranties and other statements forth in Sections 2, 5, 7 and 9 and Sections 11 through 22, inclusive, of this Agreement shall not terminate and shall remain in full force and effect at all times.

14. *RECOGNITION OF THE U.S. SPECIAL RESOLUTION REGIMES*

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 14, “**BHC Act Affiliate**” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k); “**Covered Entity**” means any of the following: (i) a “**covered entity**” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b), (ii) a “**covered bank**” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b) or (iii) a “**covered FSI**” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b); “**Default Right**” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable; and “**U.S. Special Resolution Regime**” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

15. **NOTICES.** All statements, requests, notices and agreements hereunder shall be in writing, and:

(a) if to the Underwriters, shall be delivered or sent by mail, facsimile transmission or email to (i) Citigroup Global Markets Inc. at 388 Greenwich Street, New York, New York 10013, Attention: General Counsel, facsimile number: +1 (646) 291-1469; (ii) Guggenheim Securities, LLC at 330 Madison Avenue, New York, New York 10017, Fax: (212) 658-9689, Attention: Head of Equity Capital Markets; and (iii) Richard Segal, Cooley LLP, 55 Hudson Yards, New York, NY 10001-2157; Fax: 212-479-6275; and

(b) if to the Company shall be delivered or sent by mail or email to Voyager Therapeutics, Inc., 75 Hayden Avenue, Lexington, MA 02421, Attention: Alfred Sandrock, M.D., Ph.D., email: agreements@vygr.com; with copies (which shall not constitute notice) to (i) Wilmer Cutler Pickering Hale and Dorr LLP, 7 World Trade Center, 250 Greenwich Street, New York, New York 10007 Attention: Brian A. Johnson, email: brian.johnson@wilmerhale.com and (ii) Voyager Therapeutics, Inc., 75 Hayden Avenue, Lexington, MA 02421, Attention: Chief Legal Officer, email jfaheysandell@vygr.com;

provided, however, that any notice to an Underwriter pursuant to Section 7 shall be delivered or sent by mail or facsimile transmission to such Underwriter at its address which will be supplied to any other party hereto by the Representatives upon request. Any such statements, requests, notices or agreements shall take effect at the time of receipt thereof.

16. **DEFINITION OF CERTAIN TERMS.** For purposes of this Agreement, (a) “**affiliate**” has the meaning set forth in Rule 405 under the Securities Act and (b) “**business day**” means any day on which the New York Stock Exchange, Inc. is open for trading.

17. **GOVERNING LAW.** **This Agreement shall be governed by and construed in accordance with the laws of the State of New York, including without limitation Section 5-1401 of the New York General Obligations Law.** The Company irrevocably (a) submits to the non-exclusive jurisdiction of the Federal and state courts in the Borough of Manhattan in The City of New York for the purpose of any suit, action or other proceeding arising out of this Agreement or the transactions contemplated by this Agreement, the Registration Statement and any Preliminary Prospectus or the Prospectus, (b) agrees that all claims in respect of any such suit, action or proceeding may be heard and determined by any such court, (c) waives to the fullest extent permitted by applicable law, any immunity from the jurisdiction of any such court or from any legal process, (d) agrees not to commence any such suit, action or proceeding other than in such courts, and (e) waives, to the fullest extent permitted by applicable law, any claim that any such suit, action or proceeding is brought in an inconvenient forum.

18. **WAIVER OF JURY TRIAL.** The Company and the Representatives, on behalf of the several Underwriters, hereby irrevocably waive, to the fullest extent permitted by applicable law, any and all rights to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

19. *UNDERWRITERS' INFORMATION.* The parties hereto acknowledge and agree that, for all purposes of this Agreement, the Underwriters' Information consists solely of the following information in the Prospectus: (i) in the last paragraph of the cover page regarding delivery of the Securities and (ii) under the heading "Underwriting," (A) the list of Underwriters and their respective participation in the sale of the Securities, (B) the sentences related to concessions and reallowances and (C) the paragraphs related to stabilization, syndicate covering transactions and penalty bids.

20. *AUTHORITY OF THE REPRESENTATIVES.* In connection with this Agreement, the Representatives will act for and on behalf of the several Underwriters, and any action taken under this Agreement by the Representatives, will be binding on all the Underwriters.

21. *PARTIAL UNENFORCEABILITY.* The invalidity or unenforceability of any section, paragraph, clause or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph, clause or provision hereof. If any section, paragraph, clause or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

22. *GENERAL.* This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. In this Agreement, the masculine, feminine and neuter genders and the singular and the plural include one another. The section headings in this Agreement are for the convenience of the parties only and will not affect the construction or interpretation of this Agreement. This Agreement may be amended or modified, and the observance of any term of this Agreement may be waived, only by a writing signed by the Company and the Representatives.

23. *COUNTERPARTS.* This Agreement may be signed in any number of counterparts, including by facsimile or other electronic transmission, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

[Remainder of Page Intentionally Left Blank]

If the foregoing is in accordance with your understanding of the agreement among the Company and the several Underwriters, kindly indicate your acceptance in the space provided for that purpose below.

Very truly yours,
VOYAGER THERAPEUTICS, INC.

By: /s/ Alfred Sandrock, M.D., Ph.D.
Name: Alfred Sandrock, M.D., Ph.D.
Title: Chief Executive Officer and President

Accepted as of
the date first above written:
CITIGROUP GLOBAL MARKETS INC.
GUGGENHEIM SECURITIES, LLC

Acting on their own behalf
and as Representatives of several
Underwriters listed on Schedule A to this
Agreement.

By: CITIGROUP GLOBAL MARKETS INC.

By: /s/ John Whittaker
Name: John Whittaker
Title: Managing Director

By: GUGGENHEIM SECURITIES, LLC

By: /s/ Punit Mehta
Name: Punit Mehta
Title: Senior Managing Director

SCHEDULE A

Name	Number of Shares of Firm Stock to be Purchased	Number of Warrants to be Purchased	Number of Shares of Optional Stock to be Purchased
Citigroup Global Markets Inc.	3,888,890	1,666,668	833,333
Guggenheim Securities, LLC	2,916,666	1,249,999	624,999
Oppenheimer & Co. Inc.	972,222	416,666	208,333
Total	<u>7,777,778</u>	<u>3,333,333</u>	<u>1,666,665</u>

SCHEDULE B

General Use Free Writing Prospectuses

None.

SCHEDULE C

Pricing Information

Firm Stock to be Sold: 7,777,778 shares
Warrants to be Sold: 3,333,333
Optional Stock to be Sold: 1,666,665 shares
Public Offering Price per share: \$9.00
Public Offering Price per Warrant: \$8.999

SCHEDULE D

List of officers and directors subject to Section 4(n)

James A. Geraghty
Michael Higgins
Steven Hyman, MD
Glenn Pierce, MD, PhD
Alfred Sandrock, M.D, PhD
Grace E. Colon, PhD
Catherine J. Mackey, PhD
Jude Onyia, PhD George Scangos, PhD
Nancy Vitale
Jacquelyn Fahey Sandell
Peter P. Pfreundschuh
Robin Swartz
Todd Carter, PhD

Exhibit I

Form of Lock-Up Agreement

[•], 2024

CITIGROUP GLOBAL MARKETS INC.

GUGGENHEIM SECURITIES, LLC

As Representatives of the several Underwriters

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, New York 10013

c/o Guggenheim Securities, LLC
330 Madison Ave
New York, New York 10017

Re: Voyager Therapeutics, Inc. – Public Offering of Shares of Common Stock

Dear Sir or Madam:

This Letter Agreement (this “Agreement”) is being delivered to you in connection with the proposed Underwriting Agreement (the “Underwriting Agreement”) among Voyager Therapeutics, Inc., a Delaware corporation (the “Company”) and Citigroup Global Markets Inc. (“Citi”) and Guggenheim Securities, LLC (“Guggenheim”), as representatives (together, the “Representatives”) of a group of underwriters (collectively, the “Underwriters”), to be named therein, and the other parties thereto (if any), relating to the proposed public offering of shares of the common stock (the “Offering”), par value \$0.001 per share (the “Common Stock”), of the Company.

In order to induce you and the other Underwriters to enter into the Underwriting Agreement, and in light of the benefits that the offering of the Common Stock will confer upon the undersigned in his, her or its capacity as a securityholder and/or an officer, director or employee of the Company, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned agrees with each Underwriter that, during the period beginning on the date hereof through and including the date that is the 45th day after the date of the Underwriting Agreement (the “Lock-Up Period”), the undersigned will not, and will not cause or direct any of his, her or its affiliates to, without the prior written consent of Citi and Guggenheim, directly or indirectly, (i) 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 undersigned in accordance with the rules and regulations promulgated under the Securities Act of 1933, as amended (such shares, the “Beneficially Owned Shares,” and such act, the “Securities Act”)) or securities convertible into or exercisable or exchangeable for Common Stock, (ii) 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 undersigned or someone other than the undersigned) 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 undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition (each such activity in this clause (ii), subject to the exceptions below, a “Prohibited Activity”), or (iii) 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 undersigned represents and warrants that the undersigned is not, and has not caused or directed any of its affiliates to be or become, currently a party to any agreement or arrangement that is designed to or which reasonably could be expected to lead to or result in any Prohibited Activity during the Lock-Up Period.

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

- (1) securities acquired pursuant to open market transactions, *provided* that no filing by the undersigned under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or other public announcement shall be required or shall be made voluntarily in connection with the disposition of such securities until after the expiration of the Lock-Up Period);
 - (2) if the undersigned is a natural person, any transfers made by the undersigned (a) as a bona fide gift to any member of the immediate family (as defined below) of the undersigned or to a trust the beneficiaries of which are exclusively the undersigned or members of the undersigned’s immediate family, (b) by will or intestate succession upon the death of the undersigned, (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 undersigned and/or any member of the immediate family of the undersigned, *provided* that no public announcement shall be made voluntarily in connection with such transfers and such transfers are not for value;
 - (3) if the undersigned 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 undersigned, as the case may be, if, in any such case, such transfer is not for value;
 - (4) if the undersigned 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;
 - (5) if the undersigned is a corporation, partnership, limited liability company or other business entity, any transfer made by the undersigned (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the undersigned’s capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the undersigned’s assets, in any such case not undertaken for the purpose of avoiding the restrictions imposed by this Agreement or (b) to another corporation, partnership, limited liability company or other business entity so long as the transferee is an affiliate (as defined below) of the undersigned and such transfer is not for value;
 - (6) 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 the Company’s 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 shall be subject to the restrictions provided for in this Agreement, or (b) the surrender or forfeiture to the Company, 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 undersigned accruing upon the exercise or vesting of any equity award outstanding on the date of the Underwriting Agreement granted pursuant to the Company’s equity plans (including any inducement awards granted in accordance with Nasdaq Listing Rule 5635(c)(4));
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(7) the establishment of a trading plan that satisfies the requirements of Rule 10b5-1 under the Exchange Act (a "Rule 10b5-1 Plan") for the transfer of shares of Common Stock, *provided* that there will be no transfer of shares of the undersigned'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 the undersigned, the Company 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 undersigned is not permitted to transfer, sell, or otherwise dispose of securities under such trading plan during the Lock-Up Period in contravention of this Agreement;

(8) the transfer of shares of Common Stock sold pursuant to a Rule 10b5-1 Plan existing on the date hereof; *provided, that*, the existence and details of such Rule 10b5-1 Plan were communicated to the Representatives or their counsel and the undersigned 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;

(9) transfers to the Company pursuant to agreements that are in effect on the date hereof under which the Company has the option to repurchase such shares or securities upon termination of the undersigned's employment with the Company; and

(10) the transfer of Common Stock (or any security convertible into or exercisable or exchangeable for 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 the Company (including, without limitation, the entry into any lock-up, voting or similar agreement pursuant to which the undersigned 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), *provided* that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the Common Stock owned by the undersigned shall remain subject to the restrictions contained in this Agreement. For purposes of this Agreement, "change of control" shall mean the consummation of any bona fide third-party tender offer, merger, consolidation or other similar transaction, in one transaction or a series of related transactions, in each case, approved by the board of directors of the Company and the result of which is that any "person" (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, other than the Company, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of 90% of the total outstanding voting securities of the Company;

provided, however; that in the case of any transfer described in clause (2), (3), (4), (5) or (10) above, it shall be a condition to the transfer that (A) the transferee executes and delivers to the Representatives, acting on behalf of the Underwriters, not later than one business day prior to such transfer, a written agreement, in substantially the form of this Agreement (it being understood that any references to “immediate family” in the agreement executed by such transferee shall expressly refer only to the immediate family of the undersigned and not to the immediate family of the transferee) and otherwise satisfactory in form and substance to the Representatives, and (B) in the case of any transfer described in clause (2), (3), (5), (6), (8) or (9) above, if the undersigned is required to file a report under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of Common Stock or Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or Beneficially Owned Shares during the Lock-Up Period, the undersigned shall include a statement in such report to the effect that, (I) in the case of any transfer pursuant to clause (2) above, such transfer is being made pursuant to the applicable circumstances described in clause (2), and any transfer pursuant to clause (2) also includes a statement that such transfer is not for value, (II) in the case of any transfer pursuant to clause (3) above, such transfer is being made to a stockholder, partner or member of, or owner of a similar equity interest in, the undersigned and is not a transfer for value, (III) in the case of any transfer pursuant to clause (5) above, such transfer is being made either (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the undersigned’s capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the undersigned’s assets or (b) to another corporation, partnership, limited liability company or other business entity that is an affiliate of the undersigned and such transfer is not for value, (IV) in the case of any transfer to the Company pursuant to clause (9) above, such repurchase was made pursuant to the Company’s repurchase rights upon termination of the undersigned’s employment with the Company, (V) in the case of any sales pursuant to durable automatic sale instructions described in clause (6) above, to the extent permitted by law, that such sale was pursuant to durable automatic sale instructions to satisfy the sell-to-cover election and not as a discretionary trade by the undersigned, and (VI) in the case of any sales pursuant to clause (8) above, to the extent permitted by law, that such sale was pursuant to the requirements of Rule 10b5-1 under the Exchange Act. For purposes of this paragraph, “immediate family” shall mean a spouse, child, grandchild or other lineal descendant (including by adoption), father, mother, brother or sister of the undersigned; and “affiliate” shall have the meaning set forth in Rule 405 under the Securities Act.

In order to enable this covenant to be enforced, the undersigned hereby consents to the placing of legends or stop transfer instructions with the Company’s transfer agent with respect to any Common Stock or securities convertible into or exercisable or exchangeable for Common Stock.

The undersigned further agrees that it will not, during the Lock-Up Period, make any demand or request for or exercise any right with respect to the registration under the Securities Act, of any shares of Common Stock or other Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or other Beneficially Owned Shares.

This Agreement and all authority herein conferred are irrevocable and shall survive the death or incapacity of the undersigned and shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Agreement and that this Agreement has been duly authorized (if the undersigned is not a natural person), executed and delivered by the undersigned and is a valid and binding agreement of the undersigned. This Agreement and all authority herein conferred are irrevocable and shall survive the death or incapacity of the undersigned (if a natural person) and shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned.

This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York applicable to agreements made and to be performed in such state.

The undersigned acknowledges and agrees that the Underwriters have not provided any recommendation or investment advice nor have the Underwriters solicited any action from the undersigned with respect to the Offering of the shares of Common Stock and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate. The undersigned further acknowledges and agrees that, although the Representatives may be required or choose to provide certain Regulation Best Interest and Form CRS disclosures to you in connection with the Offering, the Representatives and the other Underwriters are not making a recommendation to you to enter into this Agreement, and nothing set forth in such disclosures is intended to suggest that the Representatives or any Underwriter is making such a recommendation.

This Agreement may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any copy so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

If (i) prior to the execution of the Underwriting Agreement, the Company notifies the Representatives, or the Representatives notify the Company, in writing, that they do not intend to proceed with the Offering, (ii) the Underwriting Agreement is not executed by January 31, 2024, or (iii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated for any reason prior to payment for and delivery of any Common Stock to be sold thereunder or (iv) the registration statement filed with the SEC with respect to the Offering is withdrawn, then this Agreement shall immediately be terminated, and the undersigned shall automatically be released from all of his, her or its obligations under this Agreement. The undersigned acknowledges and agrees that whether or not any public offering of Common Stock actually occurs depends on a number of factors, including market conditions.

[Signature page follows]

VOYAGER THERAPEUTICS, INC.

WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [_____] (subject to adjustment)

Warrant No. [____]

Original Issue Date: January [____], 2024

Voyager Therapeutics, Inc., a Delaware corporation (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [_____] or its registered assigns (the “**Holder**”) is entitled, subject to the terms set forth below, to purchase from the Company up to a total of [_____] shares of common stock, \$0.001 par value per share (the “**Common Stock**”), of the Company (each such share, a “**Warrant Share**” and all such shares, the “**Warrant Shares**”) at an exercise price per share equal to \$0.001 per share (as adjusted from time to time as provided in Section 9 herein, the “**Exercise Price**”) upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the “**Warrant**”) at any time and from time to time on or after the date hereof (the “**Original Issue Date**”) and through and including the date this Warrant is exercised in full (the “**Expiration Date**”), subject to the following terms and conditions:

1. *Definitions.* For purposes of this Warrant, the following terms shall have the following meanings:

(a) “**Affiliate**” means any Person directly or indirectly controlled by, controlling or under common control with, a Holder, as such terms are used in and construed under Rule 405 under the Securities Act, but only for so long as such control shall continue.

(b) “**Commission**” means the United States Securities and Exchange Commission.

(c) “**Closing Sale Price**” means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg L.P., or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg L.P., or if the security is not listed for trading on a national securities exchange or other trading market on the relevant date, the last quoted bid price for the security in the over-the-counter market on the relevant date as reported by OTC Markets Group Inc. (or a similar organization or agency succeeding to its functions of reporting prices). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors’ determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) “**Marketable Securities**” means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), and is then current in its filing of all required reports and other information under the Securities Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Fundamental Transaction (as defined below) were Holder to exercise this Warrant on or prior to the closing thereof is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market, and (iii) following the closing of such Fundamental Transaction, the Holder would not be restricted from publicly re-selling all of the issuer’s shares and/or other securities that would be received by the Holder in such Fundamental Transaction were the Holder to exercise or convert this Warrant in full on or prior to the closing of such Fundamental Transaction.

(e) “**Principal Trading Market**” means the national securities exchange or other trading market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date, shall be the Nasdaq Global Market.

(f) “**Registration Statement**” means the Company’s Registration Statement on Form S-3 (File No. 333-268240), that became effective on November 15, 2022.

(g) “**Securities Act**” means the Securities Act of 1933, as amended.

(h) “**Trading Day**” means any weekday on which the Principal Trading Market is open for trading. If the Common Stock is not listed or admitted for trading, “Trading Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in New York City are authorized or required by law or other governmental action to close.

(i) “**Transfer Agent**” means Computershare Trust Company, N.A., the Company’s transfer agent and registrar for the Common Stock, and any successor appointed in such capacity.

2. Issuance of Securities; Registration of Warrants. The Warrant, as initially issued by the Company, is offered and sold pursuant to the Registration Statement. As of the Original Issue Date, the Warrant Shares are issuable under the Registration Statement. Accordingly, the Warrant and, assuming issuance pursuant to the Registration Statement or an exchange meeting the requirements of Section 3(a)(9) of the Securities Act as in effect on the Original Issue Date, the Warrant Shares, are not “restricted securities” under Rule 144 promulgated under the Securities Act. The Company shall register ownership of this Warrant, upon records to be maintained by the Company for that purpose (the “**Warrant Register**”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any assignee to which this Warrant is assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. *Registration of Transfers.* Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes (if any). Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a “**New Warrant**”) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company’s own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

4. *Exercise and Duration of Warrants.*

(a) All or any part of this Warrant shall be exercisable by the registered Holder in the manner set forth herein at any time and from time to time on or after the Original Issue Date and through and including the Expiration Date.

(b) The Holder may exercise this Warrant by delivering to the Company an exercise notice, in the form attached as Schedule 1 hereto (the “**Exercise Notice**”), completed and duly signed. The date on which such exercise notice is delivered to the Company (as determined in accordance with the notice provisions hereof) is an “**Exercise Date**.” The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares, if any. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

(c) In accordance with an exercise described in clause (b) above and Section 10 of this Agreement, the Holder can cause the Company to exchange the Warrant for that number of Warrant Shares that would be received upon a “cashless exercise” of the Warrant (and cash in lieu of any fractional Warrant Shares). In such event, the parties will treat the exchange as a “recapitalization” under Section 368(a)(1)(E) of the Internal Revenue Code.

5. *Delivery of Warrant Shares.*

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than three (3) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“**DTC**”) through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program or if the certificates or book-entry positions are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate or book-entry position, registered in the Company’s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, or any natural person or legal entity (each, a “**Person**”) so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates or book-entry positions evidencing such Warrant Shares, as the case may be.

(b) If by the close of the third (3rd) Trading Day after the Exercise Date, the Company fails to deliver to the Holder a certificate or book-entry position representing the required number of Warrant Shares in the manner required pursuant to Section 5(a) or fails to credit the Holder's DTC account for such number of Warrant Shares to which the Holder is entitled, and if after such third (3rd) Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**"), then the Company shall, within three (3) Trading Days after the Holder's request promptly honor its obligation to deliver to the Holder a certificate or certificates or book-entry position or book-entry positions representing such Warrant Shares and pay cash to the Holder in an amount equal to the excess (if any) of Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased in the Buy-In less the product of (A) the number of shares of Common Stock purchased in the Buy-In, times (B) the Closing Sale Price of a share of Common Stock on the Exercise Date.

(c) To the extent permitted by law and subject to Section 5(b), the Company's obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Subject to Section 5(b), nothing herein shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

6. *Charges, Taxes and Expenses.* Issuance and delivery of shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense (excluding any applicable stamp duties) in respect of the issuance of such shares, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any shares for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. *Replacement of Warrant.* If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

8. *Reservation of Warrant Shares.* The Company covenants that it will, at all times while this Warrant is outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and non-assessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed. The Company further covenants that it will not, without the prior written consent of the Holder, take any actions to increase the par value of the Common Stock at any time while this Warrant is outstanding.

9. *Certain Adjustments.* The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant (the "**Number of Warrant Shares**") are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock, then in each such case the Number of Warrant Shares shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately after such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately before such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Number of Warrant Shares shall be recomputed accordingly as of the close of business on such record date and thereafter the Number of Warrant Shares shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii), (iii), or (iv) of this paragraph shall become effective immediately after the effective date of such subdivision, combination, or reclassification.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph), (iii) rights or warrants to subscribe for or purchase any security (including Common Stock), or (iv) cash or any other asset (in each case, a “**Distribution**”), other than a reclassification as to which Section 9(c) applies, then in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the ownership limitation set forth in Section 11(a) hereof) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the participation in such Distribution; *provided, however*, to the extent that the Holder’s right to participate in any such Distribution would result in the Holder exceeding the ownership limitation set forth in Section 11(a) hereof, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as the delivery to such Holder of such portion would not result in the Holder exceeding the ownership limitation set forth in Section 11(a) hereof.

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one transaction or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company (except for any such transaction in which the stockholders of the Company immediately prior to such transaction maintain, in substantially the same proportions, the voting power of such Person immediately after the transaction) or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a “**Fundamental Transaction**”), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the Number of Warrant Shares (in the case of clause (iii) above, assuming it had tendered, and the offeror had accepted, such Warrant Shares) (the “**Alternate Consideration**”). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless (i) the Alternate Consideration is solely cash and the Company provides for the simultaneous “cashless exercise” of this Warrant pursuant to Section 10 below or (ii) prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type. Notwithstanding the foregoing, in the event of a Fundamental Transaction where the consideration payable to holders of Common Stock consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities, then this Warrant shall automatically be deemed to be exercised in full in a “cashless exercise” pursuant to Section 10 below effective immediately prior to and contingent upon the consummation of such Fundamental Transaction.

(d) Exercise Price. Simultaneously with any adjustment to the Number of Warrant Shares pursuant to Section 9 the Exercise Price shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased Number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment. Notwithstanding the foregoing, in no event may the Exercise Price be adjusted below the par value of the Common Stock then in effect.

(e) Calculations. All calculations under this Section 9 shall be made to the nearest one-tenth of one cent or the nearest whole share, as applicable.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Transfer Agent.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate in or vote with respect to such transaction; provided, however, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice. In addition, if while this Warrant is outstanding, the Company authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such Fundamental Transaction at least ten (10) days prior to the date such Fundamental Transaction is consummated.

10. *Cashless Exercise*. Notwithstanding anything contained herein to the contrary, this Warrant may only be exercised through a “cashless exercise.” Upon exercise, the Company shall issue to the Holder the number of Warrant Shares in an exchange of securities effected pursuant to Section 3(a)(9) of the Securities Act as determined as follows:

$$X = Y [(A-B)/A]$$

where:

“X” equals the number of Warrant Shares to be issued to the Holder;

“Y” equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

“A” equals the Closing Sale Price per share of Common Stock as of the Trading Day on the date immediately preceding the Exercise Date; and

“B” equals the Exercise Price per Warrant Share then in effect on the Exercise Date.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in such a “cashless exercise” transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise).

In no event will the exercise of this Warrant be settled in cash.

11. *Limitations on Exercise.*

(a) Notwithstanding anything to the contrary contained herein, the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect or immediately prior to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder, its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act to exceed 9.99% (the "**Maximum Percentage**") of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act to exceed the Maximum Percentage of the combined voting power of all of the securities of the Company then outstanding following such exercise. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Form 10-Q or Form 10-K, as the case may be, filed with the Commission prior to the date hereof, (y) a more recent public announcement by the Company or (z) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within three (3) Trading Days confirm in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage specified not in excess of 19.99% specified in such notice; provided that any such increase will not be effective until the sixty-first (61st) day after such notice is delivered to the Company. For purposes of this Section 11(a), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act shall include the shares of Common Stock issuable upon the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (x) exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (y) exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including without limitation any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act.

(b) This Section 11 shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9(c) of this Warrant.

12. *No Fractional Shares.* No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the Closing Sale Price) for any such fractional shares.

13. *Notices.* Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via confirmed e-mail prior to 5:30 P.M., New York City time, on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via confirmed e-mail on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery. The addresses and e-mail addresses for such communications shall be:

If to the Company:

Voyager Therapeutics, Inc.
75 Hayden Avenue
Lexington, Massachusetts 02421
Attention: Chief Legal Officer
Telephone: (857) 259-5340
Email: agreements@vygr.com

If to the Holder, to its address or e-mail address set forth herein or on the books and records of the Company.

Or, in each of the above instances, to such other address or e-mail address as the recipient party has specified by written notice given to each other party at least five (5) days prior to the effectiveness of such change.

14. *Warrant Agent.* The Company shall initially serve as warrant agent under this Warrant. Upon ten (10) days' notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

15. *Miscellaneous.*

(a) No Rights as a Stockholder. The Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding the foregoing, the parties will treat the Warrant as the ownership of corresponding Warrant Shares for applicable income tax purposes.

(b) Authorized Shares. Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable Warrant Shares upon the exercise of this Warrant, and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(c) Successors and Assigns. Subject to compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder, except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. Except as otherwise provided herein, this Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

VOYAGER THERAPEUTICS, INC.

By: _____

Name:

Title:

Agreed and accepted:

[HOLDER]

By: _____

Name:

Title:

SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

(1) The undersigned is the Holder of Warrant No. ____ (the "Warrant") issued by Voyager Therapeutics, Inc., a Delaware corporation (the "Company"). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The undersigned hereby exercises its right to purchase _____ Warrant Shares pursuant to the Warrant.

(3) The Holder intends that payment of the Exercise Price shall be made as a "Cashless Exercise" under Section 10 of the Warrant.

(4) Pursuant to this Exercise Notice, the Company shall deliver to the Holder the applicable number of Warrant Shares determined in accordance with the terms of the Warrant. The Warrant Shares shall be delivered to the following DWAC Account Number:

(5) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended) permitted to be owned under Section 11(a) of the Warrant to which this notice relates.

Dated: _____

Name of Holder: _____

By: _____

Name: _____

Title: _____

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

WILMERHALE

January 8, 2024

Voyager Therapeutics, Inc.
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Re: Registration Statement on Form S-3

Ladies and Gentlemen:

This opinion is being furnished to you in connection with (i) the Registration Statement on Form S-3 (File No. 333-268240) (the “Registration Statement”) filed by Voyager Therapeutics, Inc., a Delaware corporation (the “Company”), with the Securities and Exchange Commission (the “Commission”) under the Securities Act of 1933, as amended (the “Securities Act”), for the registration of, among other things, shares of Common Stock, \$0.001 par value per share, of the Company (the “Common Stock”) and warrants to purchase shares of Common Stock, which may be issued from time to time on a delayed or continuous basis pursuant to Rule 415 under the Securities Act at an aggregate initial offering price not to exceed \$300,000,000, as set forth in the Registration Statement and the prospectus contained therein (the “Base Prospectus”) and (ii) the prospectus supplement, dated January 4, 2024 (the “Prospectus Supplement”) and, together with the Base Prospectus, the “Prospectus”), relating to the issuance and sale by the Company pursuant to the Registration Statement of (i) up to 9,444,443 shares of Common Stock (the “Shares”), including Shares issuable upon exercise of an option to purchase additional shares granted by the Company, and (ii) pre-funded warrants (the “Warrants”) to purchase up to 3,333,333 shares of Common Stock (the “Warrant Shares”). The Shares and the Warrants are collectively referred to herein as the “Securities.”

The Securities are to be offered and sold by the Company pursuant to an underwriting agreement, dated January 4, 2024 (the “Underwriting Agreement”), by and among the Company and Citigroup Global Markets Inc. and Guggenheim Securities, LLC, as representatives of the underwriters named in the Underwriting Agreement, the form of which is being filed with the Commission as Exhibit 1.1 to the Company’s Current Report on Form 8-K, filed on the date hereof.

We are acting as counsel for the Company in connection with the issue and sale by the Company of the Securities. We have examined and relied upon a signed copy of the Registration Statement and the Prospectus as filed with the Commission. We have also examined and relied upon the Underwriting Agreement, the form of Warrant, minutes of meetings of the stockholders and the Board of Directors of the Company, including the committees thereof, as provided to us by the Company, the Certificate of Incorporation and Bylaws of the Company, each as restated and/or amended to date, and such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents.

Our opinions set forth below are qualified to the extent that they may be subject to or affected by (i) applicable bankruptcy, insolvency, reorganization, receivership, moratorium, fraudulent transfer, fraudulent conveyance or similar laws relating to or affecting the rights or remedies of creditors generally, (ii) statutory or decisional law concerning recourse by creditors to security in the absence of notice or hearing, (iii) duties and standards imposed on creditors and parties to contracts, including, without limitation, requirements of good faith, reasonableness and fair dealing, and (iv) general equitable principles. We express no opinion as to the availability of any equitable or specific remedy upon any breach of any of the agreements as to which we are opining herein, or any of the agreements, documents or obligations referred to therein, or to the successful assertion of any equitable defenses, inasmuch as the availability of such remedies or the success of any equitable defense may be subject to the discretion of a court.

Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109

Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Oxford Palo Alto Washington

We also express no opinion herein as to any provision of any agreement (a) which may be deemed to or construed to waive any right of the Company, (b) to the effect that rights and remedies are not exclusive, that every right or remedy is cumulative and may be exercised in addition to or with any other right or remedy and does not preclude recourse to one or more other rights or remedies, (c) relating to the effect of invalidity or unenforceability of any provision of the Warrants on the validity or enforceability of any other provision thereof, (d) which is in violation of public policy, including, without limitation, any provision relating to indemnification and contribution with respect to securities law matters, (e) which provides that the terms of the Warrants may not be waived or modified except in writing or (f) relating to choice of law or consent to jurisdiction.

We also express no opinion herein as to the laws of any state or jurisdiction other than the state laws of the State of New York and the General Corporation Law of the State of Delaware.

Based upon and subject to the foregoing, we are of the opinion that:

1. The Shares have been duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Underwriting Agreement, the Shares will be validly issued, fully paid and nonassessable.
2. The Warrants have been duly authorized by the Company and, when the Warrants are executed by the Company and delivered and paid for in accordance with the terms and conditions of the Underwriting Agreement, will constitute valid and legally binding obligations of the Company.
3. The Warrant Shares have been duly authorized and reserved for issuance and, when issued, delivered and paid for upon exercise in accordance with the provisions of the Warrants, will be validly issued, fully paid and non-assessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We hereby consent to the filing of this opinion with the Commission, in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, as an exhibit to the Current Report on Form 8-K to be filed by the Company on the date hereof in connection with the issuance and sale of the Securities and to the use of our name therein and in the related Prospectus Supplement under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

By: /s/ Wilmer Cutler Pickering Hale and Dorr LLP

WILMER CUTLER PICKERING HALE AND DORR LLP



Voyager Therapeutics Announces Pricing of Public Offering

LEXINGTON, Mass., JANUARY 4, 2024 – Voyager Therapeutics, Inc. (Nasdaq: VYGR), a biotechnology company dedicated to advancing neurogenetic medicines, today announced the pricing of an underwritten public offering of 7,777,778 shares of its common stock at a public offering price of \$9.00 per share, and, to investors who so choose in lieu of common stock, pre-funded warrants to purchase an aggregate of 3,333,333 shares of common stock at a public offering price of \$8.999 per pre-funded warrant, for aggregate gross proceeds of approximately \$100 million, before deducting underwriting discounts and commissions and other offering expenses payable by the Company. The purchase price per pre-funded warrant represents the per share public offering price for the common stock, minus the \$0.001 per share exercise price of each pre-funded warrant. All of the securities in the offering are being sold by the Company. The offering is expected to close on or about January 9, 2024, subject to the satisfaction of customary closing conditions. In addition, the Company has granted the underwriters of the offering a 30-day option to purchase up to an additional 1,666,665 shares of its common stock at the public offering price, less underwriting discounts and commissions.

Citigroup and Guggenheim Securities are acting as joint book-running managers for the offering. Oppenheimer & Co. is acting as book-running manager for the offering.

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

The offering is being made pursuant to a shelf registration statement on Form S-3 (File No. 333-268240) that was previously filed with and declared effective by the U.S. Securities and Exchange Commission (SEC). The offering is made only by means of a prospectus supplement and the accompanying prospectus that form a part of the registration statement. A preliminary prospectus supplement relating to and describing the terms of the public offering has been filed with the SEC and may be obtained for free by visiting the SEC's website at www.sec.gov. A final prospectus supplement relating to the public offering will be filed with the SEC. Copies of the preliminary prospectus supplement, the final prospectus supplement, when available, and the accompanying prospectus relating to this offering may also be obtained, when available, by contacting Citigroup, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, or by telephone at (800) 831-9146, Guggenheim Securities, LLC, Attention: Equity Syndicate Department, 330 Madison Avenue, 8th Floor, New York, NY 10017, by telephone at (212) 518-9544, or by email at GSEquityProspectusDelivery@guggenheimpartners.com, and Oppenheimer & Co. Inc., Attention: Syndicate Prospectus Department, 85 Broad Street, 26th Floor, New York, NY 10004, by telephone at (212) 667-8055, or by email at EquityProspectus@opco.com.

This press release shall not constitute an offer to sell or a solicitation of an offer to buy, nor shall there be any sale of these securities, in any state or jurisdiction in which such offer, solicitation or sale would be unlawful, prior to registration or qualification under the securities laws of any such state or jurisdiction.

About Voyager Therapeutics

Voyager Therapeutics is a biotechnology company dedicated to leveraging the power of human genetics to modify the course of – and ultimately cure – neurological diseases. The Company’s pipeline includes both wholly owned and collaborative programs for Alzheimer’s disease, amyotrophic lateral sclerosis, Parkinson’s disease, and multiple other diseases of the central nervous system. Many of the Company’s programs are derived from its TRACER™ AAV capsid discovery platform, which the Company has used to generate novel capsids and identify associated receptors.

Cautionary Note Regarding Forward-Looking Statements

This press release contains forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995 and other federal securities laws. The use of words such as “anticipate,” “expect,” “plan,” “believe,” “potential,” “proposed,” “will,” “would,” “intend,” or “may,” and other similar expressions are intended to identify forward-looking statements.

For example, any statements in this press release about future expectations, plans, and prospects for Voyager, including the anticipated closing date of the public offering, the receipt of any payments from Novartis Pharma AG and the Company’s anticipated use of proceeds of the public offering, are forward-looking. All forward-looking statements are based on estimates and assumptions by Voyager’s management that, although Voyager believes such forward-looking statements to be reasonable, are inherently uncertain. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that Voyager expected. Such risks and uncertainties include, among others, uncertainties related to market conditions, the satisfaction of customary closing conditions related to the public offering, and other factors discussed in the “Risk Factors” section contained in the preliminary prospectus supplement related to the public offering and the Company’s quarterly and annual reports filed with the SEC.

All information in the press release is as of the date of this press release, and any forward-looking statement speaks only as of the date on which it was made. Voyager undertakes no obligation to publicly update or revise this information or any forward-looking statement, whether as a result of new information, future events or otherwise, except as required by law.

Voyager Therapeutics® is a registered trademark, and TRACER™ is a trademark, of Voyager Therapeutics, Inc.

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