
**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**

**January 7, 2026
Date of Report
(Date of earliest event reported)**

Arrowhead Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-38042
(Commission
File Number)

46-0408024
(IRS Employer
Identification No.)

177 E. Colorado Blvd, Suite 700, Pasadena, CA 91105
(Address of principal executive offices, including Zip Code)

(626) 304-3400
(Registrant's telephone number, including area code)

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:

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$0.001 per share	ARWR	The 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

Equity Offering

On January 7, 2026, Arrowhead Pharmaceuticals, Inc. (the “Company”) entered into an underwriting agreement (the “Equity Underwriting Agreement”) with Jefferies LLC and J.P. Morgan Securities LLC, as representatives of the several underwriters named therein (collectively, the “Equity Underwriters”), to issue and sell 3,100,776 shares of the Company’s common stock, \$0.001 par value per share (“Common Stock”), at a public offering price of \$64.50 per share or, in lieu of shares of Common Stock to certain investors, pre-funded warrants (the “Pre-Funded Warrants”) to purchase up to 1,550,387 shares of Common Stock, at a public offering price of \$64.499, which represents the per share public offering price for the common stock less the \$0.001 per share exercise price for each Pre-Funded Warrant (the “Equity Offering”).

The Pre-Funded Warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise). A holder (together with its affiliates) may not exercise any portion of such holder’s Pre-Funded Warrant to the extent that the holder would own more than 9.99% of the outstanding shares of common stock immediately after exercise, except that upon at least 61 days’ written prior notice from the holder to us, the holder may increase or decrease the amount of ownership of outstanding shares of common stock after exercising the holder’s Pre-Funded Warrants up to 9.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Pre-Funded Warrants.

In addition, the Company granted the Equity Underwriters a 30-day option to purchase up to an additional 456,116 shares of Common Stock, on the same terms and conditions, which the Equity Underwriters exercised in full on January 8, 2026. The net proceeds from the Equity Offering are expected to be approximately \$216.6 million, after deducting customary underwriting discounts and offering expenses.

The shares of Common Stock and the Pre-Funded Warrants described above are offered pursuant to an automatic shelf registration statement (File No. 333-292061) filed with the U.S. Securities and Exchange Commission (the “SEC”) on December 11, 2025. A final prospectus supplement dated January 7, 2026 relating to and describing the terms of the Equity Offering was filed with the SEC on January 8, 2026.

The Equity Offering is expected to close on January 9, 2026, subject to customary closing conditions.

In the Equity Underwriting Agreement, the Company agreed to indemnify the Equity Underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended (the “Securities Act”), or to contribute payments that the Equity Underwriters may be required to make because of such liabilities.

A copy of the Equity Underwriting Agreement and the form of Pre-Funded Warrant are filed as Exhibit 1.1 and 4.1, respectively, and are incorporated herein by reference. The foregoing descriptions of the Equity Underwriting Agreement and the Pre-Funded Warrants do not purport to be complete and are qualified in their entirety by reference to such exhibit.

A copy of the opinion of Gibson, Dunn & Crutcher LLP relating to the validity of the issuance and sale of the shares of Common Stock and the Pre-Funded Warrants in the Equity Offering is filed herewith as Exhibit 5.1.

Notes Offering

On January 7, 2026, the Company entered into an underwriting agreement (the “Convertible Notes Underwriting Agreement”) with J.P. Morgan Securities LLC and Jefferies LLC, as representatives of the several underwriters named therein (the “Convertible Notes Underwriters”), to issue and sell (the “Convertible Notes Offering”) \$625,000,000 aggregate principal amount of its 0.00% convertible senior notes due 2032 (the “Convertible Notes”).

In addition, the Company granted the Convertible Notes Underwriters a 30-day option to purchase up to an additional \$75,000,000 aggregate principal amount of Convertible Notes, solely to cover over-allotments in the Convertible Notes Offering, which the Convertible Notes Underwriters exercised in full on January 8, 2026. The net proceeds from the Convertible Notes Offering are expected to be approximately \$681.3 million, after deducting customary underwriting discounts and offering expenses.

The Convertible Notes are offered pursuant to an automatic shelf registration statement (File No. 333-292061) filed with the SEC on December 11, 2025. A final prospectus supplement dated January 7, 2026 relating to and describing the terms of the Convertible Notes Offering was filed with the SEC on January 8, 2026.

The Convertible Notes Offering is expected to close on January 12, 2026, subject to customary closing conditions.

In the Convertible Notes Underwriting Agreement, the Company agreed to indemnify the Convertible Notes Underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute payments that the Convertible Notes Underwriters may be required to make because of such liabilities.

A copy of the Convertible Notes Underwriting Agreement is filed as Exhibit 1.2 and is incorporated herein by reference. The foregoing description of the Convertible Notes Underwriting Agreement does not purport to be complete and is qualified in its entirety by reference to such exhibit.

Item 8.01 Other Events.

On January 7, 2026, the Company issued a press release announcing that it priced the Equity Offering and the Convertible Notes Offering. A copy of this press release is filed as Exhibit 99.1 hereto and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
1.1	<u>Equity Underwriting Agreement, dated as of January 7, 2026, between Arrowhead Pharmaceuticals, Inc. and the representatives of the underwriters named therein.</u>
1.2	<u>Convertible Notes Underwriting Agreement, dated as of January 7, 2026, between Arrowhead Pharmaceuticals, Inc. and the representatives of the underwriters named therein.</u>
4.1	<u>Form of Pre-Funded Warrant</u>
5.1	<u>Opinion of Gibson, Dunn & Crutcher LLP</u>
23.1	<u>Consent of Gibson, Dunn & Crutcher LLP (included in Exhibit 5.1)</u>
99.1	<u>Press release dated January 7, 2026</u>
104	The cover page from the Company's Current Report on Form 8-K formatted in Inline XBRL

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.

Date: January 8, 2026

ARROWHEAD PHARMACEUTICALS, INC.

By: /s/ Daniel Apel
Daniel Apel
Chief Financial Officer

1,550,389 Shares

Pre-Funded Warrants to Purchase 1,550,387 Shares**Arrowhead Pharmaceuticals, Inc.****UNDERWRITING AGREEMENT**

January 7, 2026

JEFFERIES LLC
J.P. MORGAN SECURITIES LLC
As Representatives of the several Underwriters

c/o Jefferies LLC
520 Madison Avenue
New York, New York 10022

c/o J.P. Morgan Securities LLC
270 Park Avenue
New York, New York 10017

Ladies and Gentlemen:

Introductory. Arrowhead Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), proposes to issue and sell to the several underwriters named in Schedule A (the “**Underwriters**”) (i) an aggregate of 1,550,389 shares of its common stock, par value \$0.001 per share (the “**Shares**”), and (ii) pre-funded warrants of the Company to purchase an aggregate of 1,550,387 Shares (the “**Pre-Funded Warrants**”). The 1,550,389 Shares to be sold by the Company are called the “**Firm Shares**” and together with the Pre-Funded Warrants are referred to herein as the “**Firm Securities**.” In addition, the Company has granted to the Underwriters an option to purchase up to an additional 465,116 Shares (the “**Optional Shares**”) as provided in Section 2. The Firm Shares and, if and to the extent such option is exercised, the Optional Shares are collectively called the “**Offered Shares**” and together with the Pre-Funded Warrants are referred to herein as the “**Offered Securities**.” As used herein, “**Warrant Shares**” means the Shares issuable upon exercise of the Pre-Funded Warrants. Jefferies LLC (“**Jefferies**”) and J.P. Morgan Securities LLC (“**J.P. Morgan**”) have agreed to act as representatives of the several Underwriters (in such capacity, the “**Representatives**”) in connection with the offering and sale of the Offered Securities. To the extent there are no additional underwriters listed on Schedule A, the term “Representatives” as used herein shall mean you, as Underwriters, and the term “Underwriters” shall mean either the singular or the plural, as the context requires.

Substantially concurrently with the offering of the Offered Securities, the Company will, among other things, issue and sell up to \$625,000,000 aggregate principal amount of its 0% Convertible Senior Notes due 2032 (the “**Convertible Notes**”), pursuant to a separate underwriting agreement and separate prospectus supplement, subject to customary closing conditions (such offering, the “**Concurrent Offering**”). The offering of the Offered Securities is not contingent upon the completion of the Concurrent Offering, the Concurrent Offering is not contingent upon the completion of the offering of the Offered Securities, and the Offered Securities are not being offered together with the Convertible Notes.

The Company has prepared and filed with the Securities and Exchange Commission (the “**Commission**”) a shelf registration statement on Form S-3, File No. 333-292061, including a base prospectus (the “**Base Prospectus**”) to be used in connection with the public offering and sale of the Offered Securities. Such registration statement, as amended, including the financial statements, exhibits and schedules thereto, in the form in which it became effective under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (collectively, the “**Securities Act**”), including all documents incorporated or deemed to be incorporated by reference therein and any information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430A or 430B under the Securities Act, is called the “**Registration Statement**.” Any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offer and sale of the Offered Securities is called the “**Rule 462(b) Registration Statement**,” and, from and after the date and time of filing of any such Rule 462(b) Registration Statement, the term “Registration Statement” shall include the Rule 462(b) Registration Statement. The preliminary prospectus supplement dated January 6, 2026 describing the Offered Securities and the offering thereof (the “**Preliminary Prospectus Supplement**”), together with the Base Prospectus, is called the “**Preliminary Prospectus**,” and the Preliminary Prospectus and any other prospectus supplement to the Base Prospectus in preliminary form that describes the Offered Securities and the offering thereof and is used prior to the filing of the Prospectus (as defined below), together with the Base Prospectus, is called a “**preliminary prospectus**.” As used herein, the term “**Prospectus**” shall mean the final prospectus supplement to the Base Prospectus that describes the Offered Securities and the offering thereof (the “**Final Prospectus Supplement**”), together with the Base Prospectus, in the form first used by the Underwriters to confirm sales of the Offered Securities or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act. References herein to the Preliminary Prospectus, any preliminary prospectus and the Prospectus shall refer to both the prospectus supplement and the Base Prospectus components of such prospectus. As used herein, “**Applicable Time**” is 10:00 p.m. (New York City time) on January 7, 2026. As used herein, “**free writing prospectus**” has the meaning set forth in Rule 405 under the Securities Act, and “**Time of Sale Prospectus**” means the Preliminary Prospectus, as amended or supplemented immediately prior to the Applicable Time, together with the free writing prospectuses, if any, identified in Schedule B hereto, the pricing information set forth on Schedule C hereto and the pricing term sheet set forth on Schedule D hereto. As used herein, “**Road Show**” means a “road show” (as defined in Rule 433 under the Securities Act) relating to the offering of the Offered Securities contemplated hereby that is a “written communication” (as defined in Rule 405 under the Securities Act).

All references in this Agreement to the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus and the Prospectus shall include the documents incorporated or deemed to be incorporated by reference therein. All references in this Agreement to financial statements and schedules and other information which are “contained,” “included” or “stated” in, or “part of” the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, and all other references of like import, shall be deemed to mean and include all such financial statements and schedules and other information which is or is deemed to be incorporated by reference in the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, as the case may be. All references in this Agreement to amendments or supplements to the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus shall be deemed to mean and include the filing of any document under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the “**Exchange Act**”) that is or is deemed to be incorporated by reference in the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, or the Prospectus, as the case may be. All references in this Agreement to (i) the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus or the Prospectus, any amendments or supplements to any of the foregoing, or any free writing prospectus, shall include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“**EDGAR**”) and (ii) the Prospectus shall be deemed to include any “electronic Prospectus” provided for use in connection with the offering of the Offered Securities as contemplated by Section 3(o) of this Agreement.

In the event that the Company has only one subsidiary, then all references herein to “subsidiaries” of the Company shall be deemed to refer to such single subsidiary, mutatis mutandis.

The Company hereby confirms its agreements with the Underwriters as follows:

Section 1. Representations and Warranties of the Company. The Company hereby represents, warrants and covenants to each Underwriter, as of the date of this Agreement, as of the First Closing Date and as of each Option Closing Date (as hereinafter defined), if any, as follows:

(a) Compliance with Registration Requirements. The Registration Statement has become effective under the Securities Act. The Company has complied to the Commission's satisfaction with all requests of the Commission for additional or supplemental information. No stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the best knowledge of the Company, are contemplated or threatened by the Commission. At the time the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2025 (the "**Annual Report**") was filed with the Commission, or, if later, at the time the Registration Statement was originally filed with the Commission, as well as at the time the Company or any person acting on its behalf (within the meaning, for this clause only, of Rule 163(c) under the Securities Act) made any offer relating to the Offered Securities in reliance on the exemption of Rule 163 under the Securities Act, the Company was a "well known seasoned issuer" as defined in Rule 405 under the Securities Act. The Registration Statement is an "automatic shelf registration statement," as defined in Rule 405 under the Securities Act, and became effective on December 11, 2025. The Company has not received from the Commission any notice pursuant to Rule 401(g)(2) under the Securities Act objecting to the Company's use of the automatic shelf registration form. The Company meets the requirements of an "Experienced Issuer" as defined in FINRA Rule 5110(j)(6). The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, at the time they were or hereafter are filed with the Commission, or became effective under the Exchange Act, as the case may be, complied and will comply in all material respects with the requirements of the Exchange Act.

(b) Disclosure. Each preliminary prospectus and the Prospectus when filed complied in all material respects with the Securities Act and, if filed with the Commission through its Electronic Data Gathering, Analysis and Retrieval system ("**EDGAR**") by electronic transmission pursuant to EDGAR (except as may be permitted by Regulation S-T under the Securities Act), was identical to the copy thereof delivered to the Underwriters for use in connection with the offer and sale of the Offered Securities. Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, complied and will comply in all material respects with the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the Applicable Time, the Time of Sale Prospectus (including any preliminary prospectus wrapper) did not, and at the First Closing Date (as defined in Section 2) and at each applicable Option Closing Date (as defined in Section 2), will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus (including any prospectus wrapper), as of its date, did not, and at the First Closing Date and at each applicable Option Closing Date, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the three immediately preceding sentences do not apply to statements in or omissions from the Registration Statement or any post-effective amendment thereto, or the Prospectus or the Time of Sale Prospectus, or any amendments or supplements

thereto, made in reliance upon and in conformity with written information relating to any Underwriter furnished to the Company in writing by the Representatives expressly for use therein, it being understood and agreed that the only such information consists of the information described in Section 9(b) below. There are no contracts or other documents required to be described in the Time of Sale Prospectus or the Prospectus or to be filed as exhibits to the Registration Statement which have not been described or filed as required.

(c) Free Writing Prospectuses; Road Show. As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, is not or will not be (as applicable) an “ineligible issuer” in connection with the offering of the Offered Securities pursuant to Rules 164, 405 and 433 under the Securities Act. Each free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act, including timely filing with the Commission or retention where required and legending, and each such free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Offered Securities 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 Prospectus or any preliminary prospectus and not superseded or modified. Except for the free writing prospectuses, if any, identified in Schedule B, and electronic road shows, if any, furnished to you before first use, the Company has not prepared, used or referred to, and will not, without your prior written consent, prepare, use or refer to, any free writing prospectus. Each Road Show, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(d) Distribution of Offering Material By the Company. Prior to the later of (i) the expiration or termination of the option granted to the several Underwriters in Section 2 and (ii) the completion of the Underwriters’ distribution of the Offered Securities, the Company has not distributed and will not distribute any offering material in connection with the offering and sale of the Offered Securities other than the Registration Statement, the Time of Sale Prospectus, the Prospectus, any free writing prospectus reviewed and consented to by the Representatives or the free writing prospectuses, if any, identified on Schedule B hereto.

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

(f) Authorization of the Offered Securities. The Offered Shares have been duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company against payment therefor pursuant to this Agreement, will be validly issued, fully paid and nonassessable, and the issuance and sale of the Offered Shares is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase the Offered Shares. The Pre-Funded Warrants have been duly authorized by the Company and, when executed and delivered by the Company, 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 or by general equitable principles. The Warrant Shares have been duly authorized and validly reserved for issuance upon exercise of the Pre-Funded Warrants in a number sufficient to meet the current exercise requirements. The Warrant Shares, when issued and delivered upon exercise of the Pre-Funded Warrants in accordance therewith, will be validly issued, fully paid and nonassessable, and the issuance of the Warrant Shares, is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase the Warrant Shares.

(g) No Applicable Registration or Other Similar Rights. There are no persons with registration or other similar rights to have any equity or debt securities registered for sale under the Registration Statement or included in the offering contemplated by this Agreement.

(h) No Material Adverse Change. Except as otherwise disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, subsequent to the respective dates as of which information is given in the Registration Statement, the Time of Sale Prospectus and the Prospectus: (i) there has been no material adverse change, or any development that could reasonably be expected to result in a material adverse change, in (A) the condition, financial or otherwise, or in the earnings, business, properties, operations, assets, liabilities or prospects, whether or not arising from transactions in the ordinary course of business, of the Company and its subsidiaries, considered as one entity or (B) the ability of the Company to consummate the transactions contemplated by this Agreement or perform its obligations hereunder (any such change being referred to herein as a “**Material Adverse Change**”); (ii) the Company and its subsidiaries, considered as one entity, have not incurred any material liability or obligation, indirect, direct or contingent, including without limitation any losses or interference with its business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its subsidiaries, considered as one entity, or entered into any material transactions not in the ordinary course of business; and (iii) there has not been any material decrease in the capital stock or any material increase in any short-term or long-term indebtedness of the Company or its subsidiaries, and there has been no dividend or distribution of any kind declared, paid or made by the Company or, except for dividends paid to the Company or other subsidiaries, by any of the Company’s subsidiaries on any class of capital stock, or any repurchase or redemption by the Company or any of its subsidiaries of any class of capital stock.

(i) Independent Accountants.

(i) Rose, Snyder & Jacobs, LLP, which has expressed its opinion with respect to the financial statements (which term as used in this Agreement includes the related notes thereto) filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is (i) an independent registered public accounting firm as required by the Exchange Act, and the rules of the Public Company Accounting Oversight Board (“**PCAOB**”), (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(ii) KPMG LLP, which has expressed its opinion with respect to the financial statements (which term as used in this Agreement includes the related notes thereto) filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is (i) an independent registered public accounting firm as required by the Exchange Act, and the rules of the PCAOB, (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(j) Financial Statements. The financial statements filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus present fairly the consolidated financial position of the Company and its subsidiaries as of the dates indicated and the results of their operations, changes in stockholders’ equity and cash flows for the periods specified. Such financial statements have been prepared in conformity with generally accepted accounting principles as applied in the United States applied on a consistent basis throughout the periods involved, except as may be expressly

stated in the related notes thereto. 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. No other financial statements or supporting schedules are required to be included in the Registration Statement, the Time of Sale Prospectus or the Prospectus. The financial data set forth in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption "Capitalization" fairly present, in all material respects, the information set forth therein on a basis consistent with that of the audited financial statements contained in the Registration Statement, the Time of Sale Prospectus and the Prospectus. All disclosures, if any, contained in the Registration Statement, any preliminary prospectus, the Prospectus and any free writing prospectus that constitute non-GAAP financial measures (as defined by the rules and regulations under the Securities Act and the Exchange Act) comply with Regulation G under the Exchange Act and Item 10 of Regulation S-K under the Securities Act, as applicable. To the Company's knowledge, no person who has been suspended or barred from being associated with a registered public accounting firm, or who has failed to comply with any sanction pursuant to Rule 5300 promulgated by the PCAOB, has participated in or otherwise aided the preparation of, or audited, the financial statements, supporting schedules or other financial data filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(k) Company's Accounting System. The Company and each of its subsidiaries make and keep accurate books and records and maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles as applied in the United States and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (v) the interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto.

(l) Disclosure Controls and Procedures; Deficiencies in or Changes to Internal Control Over Financial Reporting. The Company has established and maintains disclosure controls and procedures (as defined in Rules 13a-15 and 15d-15 under the Exchange Act), which (i) are designed to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to the Company's principal executive officer and its principal financial officer by others within those entities, particularly during the periods in which the periodic reports required under the Exchange Act are being prepared; (ii) have been evaluated by management of the Company for effectiveness as of the end of the Company's most recent fiscal quarter; and (iii) are effective in all material respects to perform the functions for which they were established. Since the end of the Company's most recent audited fiscal year, there have been no significant deficiencies or material weaknesses in the Company's internal control over financial reporting (whether or not remediated) and no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company is not aware of any change in its internal control over financial reporting that has occurred during its most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(m) Incorporation and Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation and has the corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the Time of Sale Prospectus and the

Prospectus and to enter into and perform its obligations under this Agreement. The Company is duly qualified as a foreign corporation to transact business and is in good standing in the State of California and each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to be so qualified and in good standing could not be expected, individually or in the aggregate, to result in a Material Adverse Change.

(n) Subsidiaries. Each of the Company's "subsidiaries" (for purposes of this Agreement, shall have the meaning set forth in Rule 405 under the Securities Act except "subsidiaries" shall not include Visirna Therapeutics, Inc. ("**Visirna**") unless otherwise specifically included), including Visirna, has been duly incorporated or organized, as the case may be, and is validly existing as a corporation, partnership or limited liability company, as applicable, in good standing, if applicable, under the laws of the jurisdiction of its incorporation or organization and has the power and authority (corporate or other) to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus. Each of the Company's subsidiaries, including Visirna, is duly qualified as a foreign corporation, partnership or limited liability company, as applicable, to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to be so qualified and in good standing could not be expected, individually or in the aggregate, to result in a Material Adverse Change. All of the issued and outstanding capital stock or other equity or ownership interests of each of the Company's subsidiaries, including Visirna, have been duly authorized and validly issued, are fully paid and nonassessable and, except as disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, are owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance or adverse claim. Other than Visirna, the Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21.1 to the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2025. Visirna does not qualify as a "significant subsidiary" of the Company as defined in Rule 405 under the Securities Act.

(o) Capitalization and Other Capital Stock Matters. The authorized, issued and outstanding capital stock of the Company is as set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the captions "The Offering," "Capitalization" and "Description of Securities" (other than for subsequent issuances, if any, pursuant to employee benefit plans, upon the exercise of outstanding options or warrants or the vesting of restricted stock units, in each case as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus). The Shares (including the Offered Shares and Warrant Shares) and the Pre-Funded Warrants conform in all material respects to the description thereof contained in the Time of Sale Prospectus. All of the issued and outstanding Shares have been duly authorized and validly issued, are fully paid and nonassessable and have been issued in compliance with all federal and state securities laws. None of the outstanding Shares 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. There are no authorized or outstanding options, warrants, 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 or any of its subsidiaries other than those described in the Registration Statement, the Time of Sale Prospectus and the Prospectus. The descriptions of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, arrangements, options and rights.

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

(q) Non-Contravention of Existing Instruments; No Further Authorizations or Approvals Required. Neither the Company nor any of its subsidiaries is in violation of its charter or by-laws, partnership agreement or operating agreement or similar organizational documents, as applicable, or is in default (or, with the giving of notice or lapse of time, would be in default) (“**Default**”) under any indenture, loan, credit agreement, note, lease, license agreement, contract, franchise or other instrument (including, without limitation, any pledge agreement, security agreement, mortgage or other instrument or agreement evidencing, guaranteeing, securing or relating to indebtedness) to which the Company or any of its subsidiaries is a party or by which it or any of them may be bound, or to which any of their respective properties or assets are subject (each, an “**Existing Instrument**”), except for such Defaults as could not be expected, individually or in the aggregate, to result in a Material Adverse Change. The Company’s execution, delivery and performance of this Agreement, the Pre-Funded Warrants, consummation of the transactions contemplated hereby and by the Registration Statement, the Time of Sale Prospectus and the Prospectus and the issuance and sale of the Offered Securities (including the use of proceeds from the sale of the Offered Securities as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption “Use of Proceeds”) and the Warrant Shares (i) have been duly authorized by all necessary corporate action and will not result in any violation of the provisions of the charter or by-laws, partnership agreement or operating agreement or similar organizational documents, as applicable, of the Company or any subsidiary, (ii) will not conflict with or constitute a breach of, or Default or a Debt Repayment Triggering Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, or require the consent of any other party to, any Existing Instrument and (iii) will not result in any violation of any law, administrative regulation or administrative or court decree applicable to the Company or any of its subsidiaries, except, in case of each of clauses (ii) and (iii) (but only in respect of laws other than federal securities laws and of administrative regulations or administrative or court decrees other than under federal securities laws) above, for any such conflict, breach, violation, Default, lien, charge or encumbrance that could not be expected, individually or in the aggregate, to result in a Material Adverse Change or materially and adversely affect the consummation of the transactions contemplated by this Agreement or the performance by the Company of its obligations hereunder. No consent, approval, authorization or other order of, or registration or filing with, any court or other governmental or regulatory authority or agency, is required for the Company’s execution, delivery and performance of this Agreement and consummation of the transactions contemplated hereby and by the Registration Statement, the Time of Sale Prospectus and the Prospectus, except such as have been obtained or made by the Company and are in full force and effect under the Securities Act and such as may be required under applicable state securities or blue sky laws or the Financial Industry Regulatory Authority, Inc. (“**FINRA**”). As used herein, a “**Debt Repayment Triggering Event**” means any event or condition which 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 any of its subsidiaries.

(r) Compliance with Laws. The Company and its subsidiaries, including Visirna, have been and are in compliance with all applicable laws, rules and regulations, and all administrative or court decrees, if any, applicable to them, except where failure to be so in compliance could not be expected, individually or in the aggregate, to result in a Material Adverse Change.

(s) No Material Actions or Proceedings. Except as otherwise disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, there is no action, suit, proceeding, inquiry or investigation brought by or before any governmental entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company or any of its subsidiaries, which could be expected,

individually or in the aggregate, to result in a Material Adverse Change or materially and adversely affect the consummation of the transactions contemplated by this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental proceedings to which the Company or any such subsidiary is a party or of which any of their respective properties or assets is the subject, including ordinary routine litigation incidental to the business, if determined adversely to the Company, could not be expected to result in a Material Adverse Change. No material labor dispute with the employees of the Company or any of its subsidiaries, nor, to the Company's knowledge, with the employees of any principal supplier, manufacturer, customer or contractor of the Company, exists or, to the knowledge of the Company, is threatened or imminent.

(t) Intellectual Property Rights. The Company and its subsidiaries own, or have obtained valid and enforceable licenses for, the inventions, patent applications, patents, trademarks, trade names, service names, copyrights, trade secrets and other intellectual property described in the Registration Statement, the Time of Sale Prospectus and the Prospectus as being owned or licensed by them or which are necessary for the conduct of their respective businesses as currently conducted or as currently proposed to be conducted (collectively, "Intellectual Property"). To the Company's knowledge:

(i) there are no third parties who have rights to any Intellectual Property, except for customary reversionary rights of third-party licensors with respect to Intellectual Property that is disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus as licensed to the Company or one or more of its subsidiaries; and (ii) there is no infringement by third parties of any Intellectual Property. There is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others: (A) challenging the Company's rights in or to any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (B) challenging the validity, enforceability or scope of any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; or (C) asserting that the Company or any of its subsidiaries infringes or otherwise violates, or would, upon the commercialization of any product or service as currently contemplated by the Company described in the Registration Statement, the Time of Sale Prospectus or the Prospectus as under development, infringe or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary rights of others, and the Company is unaware of any facts which would form a reasonable basis for any such finding of infringement or violation of intellectual property rights. The Company and its subsidiaries have complied in all material respects with the terms of each material agreement pursuant to which Intellectual Property has been licensed to the Company or any subsidiary, and all such agreements are in full force and effect. The product candidates described in the Registration Statement, the Time of Sale Prospectus and the Prospectus as under development by the Company or any subsidiary fall within the scope of the claims of one or more patents or pending patent applications owned by, or exclusively licensed to, the Company or any subsidiary.

(u) All Necessary Permits, etc. The Company and its subsidiaries, including Visirna, possess such valid and current certificates, authorizations or permits required by state, federal or foreign regulatory agencies or bodies to conduct their respective businesses as currently conducted and as described in the Registration Statement, the Time of Sale Prospectus or the Prospectus ("**Permits**"), except for such certificates, authorizations or permits whose failure to obtain could not be expected, individually or in the aggregate, to result in a Material Adverse Change. Neither the Company nor any of its subsidiaries (inclusive of Visirna) (x) is in violation of, or in default under, any of the Permits (except for such violations or defaults that could not be expected, individually or in the aggregate, to result in a Material Adverse Change) or (y) has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any such certificate, authorization or permit, which, if the subject of an unfavorable decision, ruling or finding, could be expected, individually or in the aggregate, to result in a Material Adverse Change.

(v) Title to Properties. The Company and its subsidiaries have good and marketable title to all of the real and personal property and other assets reflected as owned in the financial statements referred to in Section 1(j) above (or elsewhere in the Registration Statement, the Time of Sale Prospectus or the Prospectus), in each case free and clear of any security interests, mortgages, liens, encumbrances, equities, adverse claims and other defects, except such as do not materially and adversely affect the value of such property and do not materially interfere with the use made or proposed to be made of such property by the Company or any of its subsidiaries. The real property, improvements, equipment and personal property held under lease by the Company or any of its subsidiaries are held under valid and enforceable leases, with such exceptions as are not material and do not materially interfere with the use made or proposed to be made of such real property, improvements, equipment or personal property by the Company or such subsidiary.

(w) Tax Law Compliance. The Company and its subsidiaries have filed all necessary U.S. federal, state and local and foreign tax returns that are required by law to be filed through the date of this Agreement or have properly requested extensions thereof (except where the failure to file would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Change) and have paid all taxes required to be paid by any of them, except as may be being contested in good faith and by appropriate proceedings and for which adequate reserves have been maintained in accordance with GAAP, or except for cases where the failure to file or pay could not be expected, individually or in the aggregate, to result in a Material Adverse Change.

(x) Insurance. Each of the Company and its subsidiaries is insured by recognized, financially sound and reputable institutions with policies in such amounts and with such deductibles and covering such risks as, in the reasonable judgment of the Company, are generally deemed adequate and customary for their businesses including, but not limited to, policies covering real and personal property owned or leased by the Company and its subsidiaries against theft, damage, destruction, acts of vandalism and earthquakes and policies covering the Company and its subsidiaries for product liability claims and clinical trial liability claims. The Company has no reason to believe that it or any of its subsidiaries will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that could not be expected to result in a Material Adverse Change. Neither the Company nor any of its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied.

(y) Compliance with Environmental Laws. Except as could not be expected, individually or in the aggregate, to result in a Material Adverse Change: (i) neither the Company nor any of its subsidiaries is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products (collectively, “**Hazardous Materials**”) or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, “**Environmental Laws**”); (ii) the Company and its subsidiaries have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements; (iii) there are no pending or threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or any of its subsidiaries; and (iv) there are no events or circumstances that might reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental body or agency, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(z) Periodic Review of Costs of Environmental Compliance. In the ordinary course of its business, the Company conducts a periodic review of the effect of Environmental Laws on the business, operations and properties of the Company and its subsidiaries, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties). No facts or circumstances have come to the Company's attention that could result in costs or liabilities that could be expected, individually or in the aggregate, to result in a Material Adverse Change.

(aa) ERISA Compliance. The Company and its subsidiaries and any "employee benefit plan" (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, "ERISA")) established or maintained by the Company, its subsidiaries or their "ERISA Affiliates" (as defined below) are in compliance in all material respects with ERISA. "ERISA Affiliate" means, with respect to the Company or any of its subsidiaries, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the "Code") of which the Company or such subsidiary is a member. No "reportable event" (as defined under ERISA) has occurred or is reasonably expected to occur with respect to any "employee benefit plan" established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates. No "employee benefit plan" established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates, if such "employee benefit plan" were terminated, would have any "amount of unfunded benefit liabilities" (as defined under ERISA). Neither the Company, its subsidiaries nor any of their ERISA Affiliates has incurred or reasonably expects to incur any liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "employee benefit plan" or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each employee benefit plan established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification.

(bb) Company Not an "Investment Company." The Company is not, and will not be, either after receipt of payment for the Offered Securities and the Convertible Notes in the Concurrent Offering, or after the application of the proceeds therefrom as described under "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus or the Prospectus, required to register as an "investment company" under the Investment Company Act of 1940, as amended (the "Investment Company Act").

(cc) No Price Stabilization or Manipulation; Compliance with Regulation M. Neither the Company nor any of its subsidiaries has taken, directly or indirectly, any action designed to or that might reasonably be expected to cause or result in stabilization or manipulation of the price of the Shares or of any "reference security" (as defined in Rule 100 of Regulation M under the Exchange Act ("Regulation M")) with respect to the Shares, whether to facilitate the sale or resale of the Offered Securities or otherwise, and has taken no action which would directly or indirectly violate Regulation M.

(dd) Related-Party Transactions. There are no business relationships or related-party transactions involving the Company or any of its subsidiaries or any other person required to be described in the Registration Statement, the Time of Sale Prospectus or the Prospectus that have not been described as required.

(ee) FINRA Matters. All of the information provided to the Underwriters or to counsel for the Underwriters by the Company, its counsel, 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 the offering of the Offered Securities is true, complete, correct and compliant with FINRA's rules and any letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rules is true, complete and correct.

(ff) Parties to Lock-Up Agreements. The Company has furnished to the Underwriters a letter agreement in the form attached hereto as Exhibit A (the “**Lock-up Agreement**”) from each of the persons listed on Exhibit B. Such Exhibit B lists under an appropriate caption the directors and executive officers of the Company. If any additional persons shall become directors or executive officers of the Company prior to the end of the Lock-up Period (as hereinafter defined), the Company shall cause each such person, prior to or contemporaneously with their appointment or election as a director or executive officer of the Company, to execute and deliver to the Representatives a Lock-up Agreement.

(gg) Statistical and Market-Related Data. All statistical, demographic and market-related data included in the Registration Statement, the Time of Sale Prospectus or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate. To the extent required, the Company has obtained the written consent to the use of such data from such sources.

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

(ii) No Unlawful Contributions or Other Payments. Neither the Company nor any of its subsidiaries nor, to the best of the Company’s knowledge, any employee or agent of the Company or any of its subsidiaries nor, to the best of the Company’s knowledge, Visirma or any employee or agent of Visirma or any of its subsidiaries, has made any contribution or other payment to any official of, or candidate for, any federal, state or foreign office in violation of any law or of the character required to be disclosed in the Registration Statement, the Time of Sale Prospectus or the Prospectus.

(jj) Anti Corruption and Anti Bribery Laws. Neither the Company nor any of its subsidiaries nor to the knowledge of the Company, any director, officer, employee, agent, affiliate or other person acting on behalf of the Company or any of its subsidiaries, nor to the knowledge of the Company, Visirma or any director, officer, employee, agent, affiliate or other person acting on behalf of Visirma or any of Visirma’s subsidiaries, has, in the course of its actions for, or on behalf of, the Company or any of its subsidiaries or Visirma or any of its subsidiaries (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (ii) made or taken any act in furtherance of an offer, promise, or authorization of any direct or indirect unlawful payment or benefit to any foreign or domestic government official or employee, including of any government-owned or controlled entity or public international organization, or any political party, party official, or candidate for political office; (iii) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended (the “**FCPA**”), the UK Bribery Act 2010, or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, authorized, requested, or taken an act in furtherance of any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment or benefit. The Company and its subsidiaries and, to the knowledge of the Company, the Company’s affiliates and, to the knowledge of the Company, Visirma and its affiliates, have conducted their respective businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(kk) Money Laundering Laws. The operations of the Company and its subsidiaries and, to the knowledge of the Company, the operations of Visirma and its subsidiaries, are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar applicable 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 any of its subsidiaries or, to the knowledge of the Company, involving Visirma and any of its subsidiaries, with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(ll) Compliance with Sanctions Laws. Neither the Company nor any of its subsidiaries, nor, to the knowledge of the Company, any director, officer, employee, agent, affiliate or other person acting on behalf of the Company or any of its subsidiaries, nor, to the knowledge of the Company, Visirma or any director, officer, employee, agent, affiliate or other person acting on behalf of Visirma or any of its subsidiaries, is currently the subject or the target of any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury (“**OFAC**”) or the U.S. Department of State, the United Nations Security Council, the European Union, His Majesty’s Treasury of the United Kingdom, or other relevant sanctions authority (collectively, “**Sanctions**”); nor is the Company or any of its subsidiaries, nor to the knowledge of the Company, Visirma or any of its subsidiaries, located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, the Crimea region of Ukraine, the non-government controlled areas of the Kherson and Zaporizhzhia regions of Ukraine, the so-called Donetsk People’s Republic and the so-called Luhansk People’s Republic or any other region of Ukraine identified pursuant to Executive Order 14065, Cuba, Iran, North Korea, and Syria (collectively, the “**Sanctioned Countries**”); and the Company will not directly or indirectly use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, or any joint venture partner or other person or entity, for the purpose of financing the activities of or business with any person, or in any country or territory, that at the time of such financing, is the subject or the target of Sanctions or in any other manner that will result in a violation by any person (including any person participating in the transaction whether as underwriter, advisor, investor or otherwise) of applicable Sanctions. Since April 24, 2019, the Company and its subsidiaries (including for purposes of this sentence, Visirma) have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(mm) Brokers. Except pursuant to this Agreement (and the underwriting agreement pursuant to the Concurrent Offering), there is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder’s fee or other fee or commission as a result of any transactions contemplated by this Agreement.

(nn) Forward-Looking Statements. Each financial or operational projection or other “forward-looking statement” (as defined by Section 27A of the Securities Act or Section 21E of the Exchange Act) contained in the Registration Statement, the Time of Sale Prospectus or the Prospectus (i) was so included by the Company in good faith and with reasonable basis after due consideration by the Company of the underlying assumptions, estimates and other applicable facts and circumstances and (ii) is accompanied by meaningful cautionary statements identifying those factors that could cause actual results to differ materially from those in such forward-looking statement. No such statement was made with the knowledge of an executive officer or director of the Company that is false or misleading.

(oo) No Outstanding Loans or Other Extensions of Credit. The Company does not have any outstanding extension of credit, in the form of a personal loan, to or for any director or executive officer (or equivalent thereof) of the Company except for such extensions of credit as are expressly permitted by Section 13(k) of the Exchange Act.

(pp) Cybersecurity. The Company and its subsidiaries’ information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, “**IT Systems**”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted,

and to the Company's knowledge, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants (collectively, "**IT Threats**"). The Company and its subsidiaries 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, continuous operation, redundancy and security of all IT Systems and data, including "Personal Data," used in connection with their businesses and to identify IT Threats. "**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, bank information, or customer or account number; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) "personal data" as defined by the European Union General Data Protection Regulation ("**GDPR**") (EU 2016/679); (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. To the Company's knowledge, there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and its subsidiaries are and have been in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(qq) Compliance with Data Privacy Laws. The Company and its subsidiaries are, and at all prior times were, in material compliance with all applicable data privacy and security laws and regulations, including without limitation HIPAA and the GDPR (collectively, the "**Privacy Laws**"). The Company and its subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (the "**Policies**"). The Company and its subsidiaries have at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. Neither the Company nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

(rr) Clinical Data and Regulatory Compliance. The preclinical tests and clinical trials, and other studies (collectively, "**studies**") that are described in, or the results of which are referred to in, the Registration Statement, the Time of Sale Prospectus or the Prospectus were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with standard medical and scientific research procedures; each description of the results of such studies is accurate and complete in all material respects and fairly presents the data derived from such studies, and the Company and its subsidiaries have no knowledge of any other studies the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus; the Company and its subsidiaries have made all such filings and obtained all such approvals as may be required by the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any

other U.S. or foreign government or drug or medical device regulatory agency, or health care facility Institutional Review Board (collectively, the “**Regulatory Agencies**”); neither the Company nor any of its subsidiaries has received any notice of, or correspondence from, any Regulatory Agency requiring the termination, suspension or modification of any clinical trials that are described or referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus, where such terminations, suspensions or modifications could be expected, individually or in the aggregate, to be material to the Company and its subsidiaries and the Company and its subsidiaries have each operated and currently are in compliance in all material respects with all applicable rules, regulations and policies of the Regulatory Agencies.

(ss) Compliance with Health Care Laws.

(i) The Company and its subsidiaries are, and at all times have been, in material compliance with all Health Care Laws. For purposes of this Agreement, “**Health Care Laws**” means: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.), the Public Health Service Act (42 U.S.C. Section 201 et seq.), and the regulations promulgated thereunder; (ii) all applicable federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal false statements law (42 U.S.C. Section 1320a-7b(a)), 18 U.S.C. Sections 286 and 287, the health care fraud criminal provisions under the HIPAA, the Stark Law (42 U.S.C. Section 1395nn), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusion law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C. Section 1320-7h), and applicable laws governing government funded or sponsored healthcare programs, including the collection and reporting requirements, and the processing of any applicable rebate, chargeback or adjustment, under applicable rules and regulations relating to the Medicaid Drug Rebate Program (42 U.S.C. § 1396r-8) and any state supplemental rebate program, Medicare average sales price reporting (42 U.S.C. § 1395w-3a), the Public Health Service Act (42 U.S.C. § 256b), the VA Federal Supply Schedule (38 U.S.C. § 8126) or under any state pharmaceutical assistance program or U.S. Department of Veterans Affairs agreement, and any successor government programs; (iii) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.); (iv) the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010; (v) licensure, quality, safety and accreditation requirements under applicable federal, state, local or foreign laws or regulatory bodies; and (vi) all other local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company or its subsidiaries, and (vii) the directives and regulations promulgated pursuant to such statutes and any state or non-U.S. counterpart thereof to which the Company or its subsidiaries are subject. Neither the Company nor any of its subsidiaries has received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any Health Care Laws nor, to the Company’s knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. The Company and its subsidiaries have filed, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all material respects (or were corrected or supplemented by a subsequent submission). Neither the Company nor any of its subsidiaries is a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company, any of its subsidiaries, nor any of their respective employees, officers, directors, or to the knowledge of the Company, agents 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.

(ii) The manufacture of the Company's or its subsidiaries' products by or, to the knowledge of the Company, on behalf of the Company or its subsidiaries, is being and has been, conducted in compliance in all material respects with all applicable Health Care Laws, including, without limitation, the FDA's current good manufacturing practice regulations codified at 21 C.F.R. Parts 210 and 211, and, to the extent applicable, the respective counterparts thereof promulgated by governmental authorities in countries outside the United States. There have been no material recalls, field notifications, field corrections, market withdrawals or replacements, warnings, "dear doctor" letters, investigator notices, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of the Company's or its subsidiaries' products (collectively, "**Safety Notices**"); and (ii) to the Company's knowledge, there are no facts that would be reasonably likely to result in (x) a material Safety Notice with respect to the Company's or its subsidiaries' products, (y) a material and adverse change in labeling of any of the Company's or its subsidiaries' products, or (z) a termination or suspension of marketing of any of the Company's or its subsidiaries' products.

(tt) No Contract Terminations. Except as otherwise disclosed in the Registration Statement or the Prospectus, neither the Company nor any of its subsidiaries has sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in any preliminary prospectus, the Prospectus or any free writing prospectus, or referred to or described in, or filed as an exhibit to, the Registration Statement, or any document incorporated by reference therein, and no such termination or non-renewal has been threatened by the Company or any of its subsidiaries or, to the Company's knowledge, any other party to any such contract or agreement, which threat of termination or non-renewal has not been rescinded as of the date hereof.

(uu) Dividend Restrictions. No subsidiary of the Company is prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to such subsidiary's equity securities or from repaying to the Company or any other subsidiary of the Company any amounts that may from time to time become due under any loans or advances to such subsidiary from the Company or from transferring any property or assets to the Company or to any other subsidiary.

(vv) Outbound Investment Security Program. Neither the Company nor its subsidiaries (i) are a "person of a country of concern" and (ii) have engaged in any "covered activity," as these terms are defined in 31 C.F.R. Part 850, as implemented or revised from time to time. The Company and its subsidiaries have no intention of becoming a "person of a country of concern" that engages in any "covered activity." Neither the Company nor its subsidiaries have any joint ventures that engage in or intend to engage in any "covered activity" or of becoming a "person of a country of concern."

(ww) Testing-the-Waters Communications. The Company (i) has not engaged in any Testing-the-Waters Communication and (ii) has not authorized anyone to engage in Testing-the-Waters Communications. "**Testing-the-Waters Communication**" means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the Securities Act.

Any certificate signed by any officer of the Company or any of its subsidiaries and delivered to the Underwriters or to counsel for the Underwriters in connection with the offering, or the purchase and sale, of the Offered Securities shall be deemed a representation and warranty by the Company to the Underwriters as to the matters covered thereby.

The Company has a reasonable basis for making each of the representations set forth in this Section 1. The Company acknowledges that the Underwriters and, for purposes of the opinions to be delivered pursuant to Section 6 hereof, counsel to the Company and counsel to the Underwriters, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

Section 2. Purchase, Sale and Delivery of the Offered Securities.

(a) The Firm Securities. Upon the terms herein set forth, the Company agrees to issue and sell to the several Underwriters an aggregate of 1,550,389 Firm Shares and Pre-Funded Warrants to purchase an aggregate of 1,550,387 Shares. On the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Underwriters agree, severally and not jointly, to purchase from the Company the respective number of Firm Shares and Pre-Funded Warrants set forth opposite their names on Schedule A. The purchase price per Firm Share to be paid by the Underwriters to the Company shall be \$60.9525 per share and the purchase price per Pre-Funded Warrant to be paid by the Underwriters to the Company shall be \$60.9516.

(b) The First Closing Date. Delivery of certificates for the Firm Shares and the Pre-Funded Warrants to be purchased by the Underwriters and payment therefor shall be made at the offices of Latham & Watkins LLP (or such other place as may be agreed to by the Company and the Representatives) at 10:00 a.m. New York City time, on January 9, 2026, or such other time and date not later than 1:30 p.m. New York City time, on January 26, 2026 as the Representatives shall designate by notice to the Company (the time and date of such closing are called the “**First Closing Date**”). The Company hereby acknowledges that circumstances under which the Representatives may provide notice to postpone the First Closing Date as originally scheduled include, but are not limited to, any determination by the Company or the Representatives to recirculate to the public copies of an amended or supplemented Prospectus or a delay as contemplated by the provisions of Section 11.

(c) The Optional Shares; Option Closing Date. In addition, on the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Company hereby grants an option to the several Underwriters to purchase, severally and not jointly, up to an aggregate of 465,116 Optional Shares from the Company at the purchase price per share to be paid by the Underwriters for the Firm Shares. The option granted hereunder may be exercised at any time and from time to time in whole or in part upon notice by the Representatives to the Company, which notice may be given at any time within 30 days from the date of this Agreement. Such notice shall set forth (i) the aggregate number of Optional Shares as to which the Underwriters are exercising the option and (ii) the time, date and place at which the Optional Shares will be delivered (which time and date may be simultaneous with, but not earlier than, the First Closing Date; and in the event that such time and date are simultaneous with the First Closing Date, the term “First Closing Date” shall refer to the time and date of delivery of the certificates for the Firm Securities and such Optional Shares). Any such time and date of delivery, if subsequent to the First Closing Date, is called an “Option Closing Date,” and shall be determined by the Representatives and shall not be earlier than one day or later than five full business days after delivery of such notice of exercise. If any Optional Shares are to be purchased, each Underwriter agrees, severally and not jointly, to purchase the number of Optional Shares (subject to such adjustments to eliminate fractional shares as the Representatives may determine) that bears the same proportion to the total number of Optional Shares to be purchased as the number of Firm Shares set forth on Schedule A opposite the name of such Underwriter bears to the total number of Firm Shares and Pre-Funded Warrants. The Representatives may cancel the option at any time prior to its expiration by giving written notice of such cancellation to the Company.

(d) Public Offering of the Offered Securities. The Representatives hereby advise the Company that the Underwriters intend to offer for sale to the public, initially on the terms set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus, their respective portions of the Offered Securities as soon after the execution and delivery of this Agreement as the Representatives, in their sole judgment, have determined is advisable and practicable.

(e) Payment for the Offered Securities. Payment for the Offered Securities shall be made at the First Closing Date (and, if applicable, at each Option Closing Date) by wire transfer of immediately available funds to the order of the Company. It is understood that the Representatives have been authorized, for their own account and the accounts of the several Underwriters, to accept delivery of and receipt for, and make payment of the purchase price for, the Firm Securities and any Optional Shares the Underwriters have agreed to purchase. Each of Jefferies and J.P. Morgan individually and not as the Representatives of the Underwriters, may (but shall not be obligated to) make payment for any Offered Securities to be purchased by any Underwriter whose funds shall not have been received by the Representatives by the First Closing Date or the applicable Option Closing Date, as the case may be, for the account of such Underwriter, but any such payment shall not relieve such Underwriter from any of its obligations under this Agreement.

(f) Delivery of the Offered Securities. The Company shall (i) deliver, or cause to be delivered to the Representatives for the accounts of the several Underwriters certificates for the Offered Shares at the First Closing Date (and, if applicable, at each Option Closing Date) and (ii) deliver, or cause to be delivered, to the purchasers thereof the Pre-Funded Warrants in accordance with the Underwriters' instruction, in each case against release of a wire transfer of immediately available funds for the amount of the purchase price therefor. If the Representatives so elect, delivery of the Offered Securities may be made by credit to the accounts designated by the Representatives through The Depository Trust Company's full fast transfer or DWAC programs. If the Representatives so elect, the certificates for the Offered Shares and the Pre-Funded Warrants shall be registered in such names and denominations as the Representatives shall have requested at least two full business days prior to the First Closing Date (or the applicable Option Closing Date, as the case may be) and shall be made available for inspection on the business day preceding the First Closing Date (or the applicable Option Closing Date, as the case may be) at a location in New York City as the Representatives may designate, *provided, however*, that if the Company, upon instruction by the Representatives, registers the Pre-Funded Warrants in the name of any person or entity to whom any Underwriter intends to sell such Pre-Funded Warrants, then such Underwriter shall have the right to thereafter request the re-registration of such Pre-Funded Warrants (and the Company shall be required to re-register such Pre-Funded Warrants) in the name of any other person or entity (it being understood that such re-registration is intended to permit an Underwriter to resell such Pre-Funded Warrants in the event that the person or entity to whom such Underwriter originally intended to sell such Pre-Funded Warrants shall fail to pay the purchase price of such Pre-Funded Warrants). Notwithstanding the foregoing, the Company and the Representatives shall instruct purchasers of the Pre-Funded Warrants to make payment for the Pre-Funded Warrants on the First Closing Date to the Company by wire transfer in immediately available funds to the account specified by the Company at a purchase price of \$64.4990 per Pre-Funded Warrant, in lieu of payment by the Underwriters for such Pre-Funded Warrants, and the Company shall deliver the Pre-Funded Warrants to such purchasers on the First Closing Date in definitive form against such payment, in lieu of the Company's obligation to deliver the Pre-Funded Warrants to the Representatives; provided that, the Underwriters shall withhold \$3.5474 per Pre-Funded Warrant with respect to such Pre-Funded Warrants as an offset effected by the Company of its claim for payment by the Underwriters to the Company for the Firm Shares and Optional Shares (only to the extent the Underwriters' option under Section 2(c) hereof is exercised concurrently to close on the First Closing Date) against the Company's obligation to pay the amount so withheld with respect to such Pre-Funded Warrants to the Underwriters. In the event that any purchaser of the Pre-Funded Warrants fails to make payment to the Company for all or part of the Pre-Funded Warrants on the First Closing Date, the Representatives shall either (i) make payment to the Company for such Pre-Funded Warrants at the purchase price of \$60.9516 per Pre-Funded Warrant or (ii) elect, by written notice to the Company, to receive Shares at the purchase price of \$60.9525 per Share, in lieu of all or a portion of such Pre-Funded Warrants contemplated to be sold under this Agreement. Time shall be of the essence, and delivery at the time and place specified in this Agreement is a further condition to the obligations of the Underwriters.

Section 3. Additional Covenants of the Company. The Company further covenants and agrees with the Underwriters as follows:

(a) Commission Filing Fees. The Company agrees to pay the required Commission filing fees relating to the Offered Securities within the time required by Rule 456(b)(1) under the Securities Act without regard to the proviso therein and otherwise in accordance with the Rules 456(b) and 457(r) under the Securities Act.

(b) Delivery of Registration Statement, Time of Sale Prospectus and Prospectus. The Company shall furnish to you in New York City, without charge, prior to 10:00 a.m. New York City time on the business day next succeeding the date of this Agreement and during the period when a prospectus relating to the Offered Securities is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Securities, as many copies of the Time of Sale Prospectus, the Prospectus and any supplements and amendments thereto or to the Registration Statement as you may reasonably request.

(c) Review of Proposed Amendments and Supplements. During the period when a prospectus relating to the Offered Securities is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), the Company (i) will furnish to the Representatives for review, a reasonable period of time prior to the proposed time of filing of any proposed amendment or supplement to the Registration Statement, a copy of each such amendment or supplement and (ii) will not amend or supplement the Registration Statement (including any amendment or supplement through incorporation of any report filed under the Exchange Act) without the Representatives' prior written consent. Prior to amending or supplementing any preliminary prospectus, the Time of Sale Prospectus or the Prospectus (including any amendment or supplement through incorporation of any report filed under the Exchange Act), the Company shall furnish to the Representatives for review, a reasonable amount of time prior to the time of filing or use of the proposed amendment or supplement, a copy of each such proposed amendment or supplement. The Company shall not file or use any such proposed amendment or supplement without the Representatives' prior written consent. The Company shall file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(d) Free Writing Prospectuses. The Company shall furnish to the Representatives for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed free writing prospectus or any amendment or supplement thereto prepared by or on behalf of, used by, or referred to by the Company, and the Company shall not file, use or refer to any proposed free writing prospectus or any amendment or supplement thereto without the Representatives' prior written consent, which shall not be unreasonably withheld, conditioned or delayed. The Company shall furnish to each Underwriter, without charge, as many copies of any free writing prospectus prepared by or on behalf of, used by or referred to by the Company as such Underwriter may reasonably request. If at any time when a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Securities (but in any event if at any time through and including the First Closing Date) there occurred or occurs an event or development as a result of which any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, the Company shall promptly amend or supplement such free writing prospectus to

eliminate or correct such conflict so that the statements in such free writing prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, as the case may be; *provided, however*, that prior to amending or supplementing any such free writing prospectus, the Company shall furnish to the Representatives for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented free writing prospectus, and the Company shall not file, use or refer to any such amended or supplemented free writing prospectus without the Representatives' prior written consent, which shall not be unreasonably withheld, conditioned or delayed.

(e) Filing of Underwriters Free Writing Prospectuses. The Company shall 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) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that such Underwriter otherwise would not have been required to file thereunder.

(f) Amendments and Supplements to Time of Sale Prospectus. If the Time of Sale Prospectus is being used to solicit offers to buy the Offered Securities at a time when the Prospectus is not yet available to prospective purchasers, and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus so that the Time of Sale Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable law, the Company shall (subject to Section 3(c) and Section 3(d) hereof) promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the information contained in the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable law.

(g) Certain Notifications and Required Actions. After the date of this Agreement, the Company shall promptly advise the Representatives in writing of: (i) the receipt of any comments of, or requests for additional or supplemental information from, the Commission; (ii) the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus; (iii) the time and date that any post-effective amendment to the Registration Statement becomes effective; and (iv) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus or the Prospectus or of any order preventing or suspending the use of any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Shares from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its best efforts to obtain the lifting of such order as soon as reasonably practicable. Additionally, the Company agrees that it shall comply with all applicable provisions of Rule 424(b), Rule 433 and Rule 430B under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b) or Rule 433 were received in a timely manner by the Commission. If, after the date of this Agreement and during any time when a

prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), the Company receives notice pursuant to Rule 401(g)(2) under the Securities Act from the Commission or otherwise ceases to be eligible to use the automatic shelf registration form, the Company shall promptly advise the Representatives in writing of such notice or ineligibility and will (i) promptly file a new registration statement or post-effective amendment on the proper form relating to the Offered Securities, (ii) use its best efforts to cause such registration statement or post-effective amendment to be declared effective by the Commission as soon as practicable and (iii) promptly notify the Representatives in writing of such effectiveness.

(h) Amendments and Supplements to the Prospectus and Other Securities Act Matters. If any event shall occur or condition exist, as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading, or if in the opinion of the Representatives or counsel for the Underwriters, it is otherwise necessary to amend or supplement the Prospectus to comply with applicable law, the Company agrees (subject to Section 3(c) and Section 3(d)) hereof to promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law. Neither the Representatives' consent to, nor delivery of, any such amendment or supplement shall constitute a waiver of any of the Company's obligations under Section 3(c) or Section 3(d).

(i) Blue Sky Compliance. The Company shall cooperate with the Representatives and counsel for the Underwriters to qualify or register the Offered Securities for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws (or other foreign laws) of those jurisdictions designated by the Representatives, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Offered Securities. The Company shall not be required to (i) qualify as a foreign corporation, (ii) take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified, or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject. The Company will advise the Representatives promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Offered Securities for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its best efforts to obtain the withdrawal thereof as soon as reasonably practicable.

(j) Use of Proceeds. The Company shall apply the net proceeds from the sale of the Offered Securities sold by it in the manner described under the caption "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(k) Transfer Agent. The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Shares, including the Warrant Shares.

(l) Earnings Statement. The Company will make generally available to its security holders and to the Representatives as soon as reasonably practicable an earnings statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company commencing after the date of this Agreement that will satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder; *provided, however*, that the requirements of this Section 3(l) shall be satisfied to the extent that such earnings statement is available on EDGAR.

(m) Continued Compliance with Securities Laws. The Company will comply with the Securities Act and the Exchange Act so as to permit the completion of the distribution of the Offered Securities as contemplated by this Agreement, the Registration Statement, the Time of Sale Prospectus and the Prospectus. Without limiting the generality of the foregoing, the Company will, during the period when a prospectus relating to the Offered Securities is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), file on a timely basis with the Commission and the Nasdaq all reports and documents required to be filed under the Exchange Act.

(n) Listing. The Company will use its best efforts to list, subject to notice of issuance, the Offered Shares and the Warrant Shares on the Nasdaq.

(o) Company to Provide Copy of the Prospectus in Form That May be Downloaded from the Internet. If requested by the Representatives, the Company shall cause to be prepared and delivered, at its expense, within one business day from the effective date of this Agreement, to the Representatives an “**electronic Prospectus**” to be used by the Underwriters in connection with the offering and sale of the Offered Securities. As used herein, the term “**electronic Prospectus**” means a form of the Prospectus, and any amendment or supplement thereto, that meets each of the following conditions: (i) it shall be encoded in an electronic format, satisfactory to the Representatives, that may be transmitted electronically by the Representatives and the other Underwriters to offerees and purchasers of the Offered Securities; (ii) it shall disclose the same information as the paper Prospectus, except to the extent that graphic and image material cannot be disseminated electronically, in which case such graphic and image material shall be replaced in the electronic Prospectus with a fair and accurate narrative description or tabular representation of such material, as appropriate; and (iii) it shall be in or convertible into a paper format or an electronic format, satisfactory to Jefferies, that will allow investors to store and have continuously ready access to the Prospectus at any future time, without charge to investors (other than any fee charged for subscription to the Internet as a whole and for on-line time). The Company hereby confirms that it has included or will include in the Prospectus filed pursuant to EDGAR or otherwise with the Commission and in the Registration Statement at the time it was declared effective an undertaking that, upon receipt of a request by an investor or his or her representative, the Company shall transmit or cause to be transmitted promptly, without charge, a paper copy of the Prospectus.

(p) Agreement Not to Offer or Sell Additional Shares. During the period commencing on and including the date hereof and continuing through and including the 45th day following the date of the Prospectus (such period, as extended as described below, being referred to herein as the “**Lock-up Period**”), the Company will not, without the prior written consent of the Representatives (which consent may be withheld in its sole discretion), directly or indirectly: (i) sell, offer to sell, contract to sell or lend any Shares or Related Securities (as defined below); (ii) effect any short sale, or establish or increase any “put equivalent position” (as defined in Rule 16a-1(h) under the Exchange Act) or liquidate or decrease any “call equivalent position” (as defined in Rule 16a-1(b) under the Exchange Act) of any Shares or Related Securities; (iii) pledge, hypothecate or grant any security interest in any Shares or Related Securities; (iv) in any other way transfer or dispose of any Shares or Related Securities; (v) enter into any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of any Shares or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise; (vi) announce the offering of any Shares or Related Securities; (vii) submit or file any registration statement under the Securities Act in respect of any Shares or Related Securities (other than as contemplated by this Agreement); (viii) effect a reverse stock split, recapitalization, share consolidation, reclassification or similar transaction affecting the outstanding Shares; or (ix) publicly announce the intention to do any of the

foregoing; *provided, however*, that the Company may (A) effect the transactions contemplated hereby (including the transactions contemplated by the Concurrent Offering), (B) file one or more registration statements on Form S-8 or a successor form thereto to register Shares issuable pursuant to the terms of a stock option, stock bonus or other stock plan or arrangement described in the Registration Statement, the Time of Sale Prospectus and the Prospectus or pursuant to the grant of an inducement grant award, as permitted by Nasdaq Stock Market Rule 5635, (C) issue Shares or options to purchase Shares, or other compensatory equity awards, or issue Shares upon the exercise of options or settlement of restricted stock units (“RSUs”), pursuant to any stock option, stock bonus or other stock plan or arrangement described in the Registration Statement, the Time of Sale Prospectus and the Prospectus or pursuant to the grant of an inducement grant award, as permitted by Nasdaq Stock Market Rule 5635, and (D) enter into the capped call confirmations in connection with the Concurrent Offering and perform the Company’s obligations thereunder. Notwithstanding anything to the contrary contained in this paragraph, the Company shall be permitted to keep in effect that certain Amended and Restated Open Market Sale AgreementSM (the “**Sale Agreement**”) between the Company and Jefferies, dated as of December 10, 2025, provided no sales shall be made under the Sale Agreement for the first 30 calendar days after the date of this Agreement. For purposes of the foregoing, “**Related Securities**” shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for, or convertible into, Shares.

(q) Future Reports. During the period of five years hereafter, the Company will furnish to the Representatives, c/o Jefferies LLC, 520 Madison Avenue, New York, New York 10022, Attention: General Counsel and c/o J.P. Morgan Securities LLC, 270 Park Avenue, New York, New York 10017, Facsimile: (212) 622-8358, Attention: Equity Syndicate Desk: (i) as soon as practicable after the end of each fiscal year, copies of the Annual Report of the Company containing the balance sheet of the Company as of the close of such fiscal year and statements of income, stockholders’ equity and cash flows for the year then ended and the opinion thereon of the Company’s independent public or certified public accountants; (ii) as soon as practicable after the filing thereof, copies of each proxy statement, Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other report filed by the Company with the Commission, FINRA or any securities exchange; and (iii) as soon as available, copies of any report or communication of the Company furnished or made available generally to holders of its capital stock; *provided, however*, that the requirements of this Section 3(q) shall be satisfied to the extent that such reports, statement, communications, financial statements or other documents are available on EDGAR.

(r) Investment Limitation. The Company shall not invest or otherwise use the proceeds received by the Company from its sale of the Offered Securities in such a manner as would require the Company or any of its subsidiaries to register as an investment company under the Investment Company Act.

(s) No Stabilization or Manipulation; Compliance with Regulation M. The Company will not take, and will ensure that no affiliate of the Company will take, directly or indirectly, any action designed to or that might cause or result in stabilization or manipulation of the price of the Shares or any reference security with respect to the Shares, whether to facilitate the sale or resale of the Offered Securities or otherwise, and the Company will, and shall cause each of its affiliates to, comply with all applicable provisions of Regulation M.

SM “Open Market Sale Agreement” is a service mark of Jefferies LLC

(t) Enforce Lock-Up Agreements. During the Lock-up Period, the Company will enforce all agreements between the Company and any of its security holders that restrict or prohibit, expressly or in operation, the offer, sale or transfer of Shares or Related Securities or any of the other actions restricted or prohibited under the terms of the form of Lock-up Agreement. In addition, the Company will direct the transfer agent to place stop transfer restrictions upon any such securities of the Company that are bound by such “lock-up” agreements for the duration of the periods contemplated in such agreements, including, without limitation, “lock-up” agreements entered into by the Company’s officers and directors pursuant to Section 6(i) hereof.

(u) Company to Provide Interim Financial Statements. Prior to the First Closing Date and each applicable Option Closing Date, the Company will furnish the Underwriters, as soon as they have been prepared by or are available to the Company, a copy of any unaudited interim financial statements of the Company for any period subsequent to the period covered by the most recent financial statements appearing in the Registration Statement and the Prospectus, *provided, however*, that the requirements of this Section 3(u) shall be satisfied to the extent that such unaudited financial statements are available on EDGAR.

(v) Announcement Regarding Lock-ups. The Company agrees to announce the Underwriters’ intention to release any director or “officer” (within the meaning of Rule 16a-1(f) under the Exchange Act) of the Company from any of the restrictions imposed by any Lock-Up Agreement, by issuing, through a major news service, a press release in form and substance satisfactory to the Representatives or, if consented to by the Representatives, in a registration statement that is publicly filed in connection with a secondary offering of the Company’s shares promptly following the Company’s receipt of any notification from Jefferies in which such intention is indicated, but in any case not later than the close of the third business day prior to the date on which such release or waiver is to become effective; *provided, however*, that nothing shall prevent the Representatives, on behalf of the Underwriters from announcing the same through a major news service, irrespective of whether the Company has made the required announcement; and *provided, further*, that no such announcement shall be made of any release or waiver granted solely to permit a transfer of securities that is not for consideration and where the transferee has agreed in writing to be bound by the terms of a Lock-Up Agreement in the form set forth as Exhibit A hereto.

(w) Final Term Sheet. The Company will prepare a final term sheet relating to the offering of the Offered Securities and the Concurrent Offering in a form approved by the Representatives (as set forth in Schedule D hereto) and will file such term sheet pursuant to and within the time required by Rule 433(d) under the Securities Act.

(x) Reservation of Warrant Shares. The Company shall, at all times while any Pre-Funded Warrants are outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Shares, solely for the purpose of enabling it to issue Warrant Shares upon exercise of such Pre-Funded Warrants, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of the then-outstanding Pre-Funded Warrants.

The Representatives, on behalf of the several Underwriters, may, in their sole discretion, waive in writing the performance by the Company of any one or more of the foregoing covenants or extend the time for their performance.

Section 4. Payment of Expenses. The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Offered Securities (including all printing and engraving costs), (ii) all fees and expenses of the registrar and transfer agent of the Offered Securities, (iii) all necessary issue, transfer, stamp and other similar taxes in connection with the issuance and sale of the Offered Securities to the Underwriters, (iv) all fees and expenses of the Company’s counsel, independent public or certified public accountants and other advisors, (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping

and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Time of Sale Prospectus, the Prospectus, each free writing prospectus prepared by or on behalf of, used by, or referred to by the Company, and each preliminary prospectus and all amendments and supplements thereto, and this Agreement, (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Underwriters in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Offered Securities for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada, and, if requested by the Representatives, preparing and printing a "Blue Sky Survey" or memorandum and a "Canadian wrapper," and any supplements thereto, advising the Underwriters of such qualifications, registrations and exemptions, (vii) the costs, fees and expenses incurred by the Underwriters in connection with determining their compliance with the rules and regulations of FINRA related to the Underwriters' participation in the offering and distribution of the Offered Securities, including any related filing fees and the legal fees of, and disbursements by, counsel to the Underwriters, (viii) 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 Offered 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 representatives, employees and officers of the Company and any such consultants, and one half of the cost of any aircraft chartered in connection with the road show, *provided, however*, that the prior written approval of the Company was obtained prior to the chartering of any such aircraft, (ix) the fees and expenses associated with listing the Offered Shares and the Warrant Shares on the Nasdaq, and (x) all other fees, costs and expenses of the nature referred to in Item 14 of Part II of the Registration Statement; *provided, however*, that the Company shall not be responsible for any fees or expenses related to clauses (vi) and (vii) in excess of \$30,000 in the aggregate; provided that the foregoing limitation shall not apply with respect to any FINRA filing fees pursuant to clause (vii). Except as provided in this Section 4 or in Section 7, Section 9 or Section 10 hereof, the Underwriters shall pay its own expenses, including the fees and disbursements of its counsel and any transfer taxes or other similar taxes payable in connection with the resale of any of the Offered Securities by the Underwriters.

Section 5. Covenant of the Underwriters. Each Underwriter severally and not jointly covenants with the Company not to take any action that would result in the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that otherwise would not, but for such actions, be required to be filed by the Company under Rule 433(d).

Section 6. Conditions of the Obligations of the Underwriters. The respective obligations of the several Underwriters hereunder to purchase and pay for the Offered Securities as provided herein on the First Closing Date and, with respect to the Optional Shares, each Option Closing Date, shall be subject to the accuracy of the representations and warranties on the part of the Company set forth in Section 1 hereof as of the date hereof and as of the First Closing Date as though then made and, with respect to the Optional Shares, as of each Option Closing Date as through then made, to the timely performance by the Company of its covenants and other obligations hereunder, and to each of the following additional conditions:

(a) Comfort Letter. On the date hereof, the Representatives shall have received from KPMG LLP, independent registered public accountants for the Company, a letter dated the date hereof addressed to the Underwriters, in form and substance satisfactory to the Representatives, containing statements and information of the type ordinarily included in accountant's "comfort letters" to underwriters, delivered according to Statement of Auditing Standards No. 72 (or any successor bulletin), with respect to the audited and unaudited financial statements and certain financial information contained in the Registration Statement, the Time of Sale Prospectus, and each free writing prospectus, if any.

(b) Compliance with Registration Requirements; No Stop Order; No Objection from FINRA. For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Shares purchased after the First Closing Date, each Option Closing Date:

(i) The Company shall have filed the Prospectus with the Commission (including the information previously omitted from the Registration Statement pursuant to Rule 430B under the Securities Act) in the manner and within the time period required by Rule 424(b) under the Securities Act;

(ii) No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment to the Registration Statement shall be in effect, and no proceedings for such purpose shall have been instituted or threatened by the Commission.

(iii) If a filing has been made with FINRA, then FINRA shall have raised no objection to the fairness and reasonableness of the underwriting terms and arrangements.

(c) No Material Adverse Change. For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Shares purchased after the First Closing Date, each Option Closing Date: in the judgment of the Representatives there shall not have occurred any Material Adverse Change.

(d) Opinion and Negative Assurance Letter of Counsel for the Company. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received the opinion (including an opinion with respect to regulatory law matters) and negative assurance letter of Gibson, Dunn & Crutcher LLP, counsel for the Company, dated as of such date, in form and substance reasonably satisfactory to the Representatives.

(e) Opinion of Intellectual Property Counsel. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received (i) the opinion of Honigman LLC, counsel for the Company with respect to certain intellectual property matters, and (ii) the opinion of the Company's internal intellectual property counsel with respect to certain intellectual property matters, in each case dated as of such date, in form and substance reasonably satisfactory to the Representatives.

(f) Opinion and Negative Assurance Letter of Counsel for the Underwriters. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received the opinion and negative assurance letter of Latham & Watkins LLP, counsel for the Underwriters in connection with the offer and sale of the Offered Securities, in form and substance satisfactory to the Underwriters, dated as of such date.

(g) Officers' Certificate. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received a certificate executed by the Chief Executive Officer or President of the Company and the Chief Financial Officer of the Company, dated as of such date, to the effect set forth in Section 6(b)(ii) and further to the effect that:

(i) for the period from and including the date of this Agreement through and including such date, there has not occurred any Material Adverse Change;

(ii) the representations, warranties and covenants of the Company set forth in Section 1 of this Agreement are true and correct with the same force and effect as though expressly made on and as of such date; and

(iii) the Company has complied with all the agreements hereunder and satisfied all the conditions on its part to be performed or satisfied hereunder at or prior to such date.

(h) Bring-down Comfort Letter. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received from KPMG LLP, independent registered public accountants for the Company, a letter dated such date, in form and substance satisfactory to the Representatives, which letter shall: (i) reaffirm the statements made in the letter furnished by them pursuant to Section 6(a), except that the specified date referred to therein for the carrying out of procedures shall be no more than three business days prior to the First Closing Date or the applicable Option Closing Date, as the case may be; and (ii) cover certain financial information contained in the Prospectus.

(i) Lock-Up Agreements. On or prior to the date hereof, the Company shall have furnished to the Representatives an agreement in the form of Exhibit A hereto from each of the persons listed on Exhibit B hereto, and each such agreement shall be in full force and effect on each of the First Closing Date and each Option Closing Date.

(j) Rule 462(b) Registration Statement. In the event that a Rule 462(b) Registration Statement is filed in connection with the offering contemplated by this Agreement, such Rule 462(b) Registration Statement shall have been filed with the Commission on the date of this Agreement and shall have become effective automatically upon such filing.

(k) CFO Certificate. On the date of this Agreement and on the First Closing Date or the applicable Option Closing Date, as the case may be, the Company shall have furnished to the Representatives a certificate, dated the respective dates of delivery thereof and addressed to the Underwriters, of its Chief Financial Officer with respect to certain financial data contained in the Time of Sale Prospectus and the Prospectus.

(l) Form of Pre-Funded Warrants. The Representatives shall have received a form of Pre-Funded Warrant in the form and substance reasonably acceptable to the Representatives.

(m) Additional Documents. On or before each of the First Closing Date and each Option Closing Date, the Representatives and counsel for the Underwriters shall have received such information, documents and opinions as they may reasonably request for the purposes of enabling them to pass upon the issuance and sale of the Offered Securities as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Offered Securities as contemplated herein and in connection with the other transactions contemplated by this Agreement shall be reasonably satisfactory in form and substance to the Representatives and counsel for the Underwriters.

If any condition specified in this Section 6 is not satisfied when and as required to be satisfied and is not waived by the Representatives, this Agreement may be terminated by the Representatives by notice from the Representatives to the Company at any time on or prior to the First Closing Date and, with respect to the Optional Shares, at any time on or prior to the applicable Option Closing Date, which termination shall be without liability on the part of any party to any other party, except that Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination.

Section 7. Reimbursement of Underwriters' Expenses. If this Agreement is terminated by the Representatives pursuant to Section 6 or Section 12, or if the sale to the Underwriters of the Offered Securities on the First Closing Date is not consummated because of any refusal, inability or failure on the part of the Company to perform any agreement herein or to comply with any provision hereof, the Company agrees to reimburse the Representatives and the other Underwriters (or such Underwriters as have terminated this Agreement with respect to themselves), severally, upon demand for all out-of-pocket expenses that shall have been reasonably incurred by the Representatives and the Underwriters in connection with the proposed purchase and the offering and sale of the Offered Securities, including, but not limited to, fees and disbursements of counsel, printing expenses, travel expenses, postage, facsimile and telephone charges.

Section 8. Effectiveness of this Agreement. This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

Section 9. Indemnification.

(a) Indemnification of the Underwriters. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors, officers, employees and agents, and each person, if any, who controls any Underwriter within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as incurred, to which such Underwriter or such affiliate, director, officer, employee, agent or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Offered Securities have been offered or sold or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of the Company), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading; (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act, any road show as defined in Rule 433(h) under the Securities Act (a "**road show**") or the Prospectus (or any amendment or supplement to the foregoing), or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading; or (iii) any act or failure to act or any alleged act or failure to act by any Underwriter in connection with, or relating in any manner to, the Offered Securities or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon any matter covered by clause (i) or (ii) above; and to reimburse each Underwriter and each such affiliate, director, officer, employee, agent and controlling person for any and all expenses (including the reasonable fees and disbursements of counsel) as such expenses are reasonably incurred by such Underwriter or such affiliate, director, officer, employee, agent or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action; *provided, however*, that the foregoing indemnity agreement shall not apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company by the Representatives in writing expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any such free writing prospectus or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information consists of the information described in Section 9(b) below. The indemnity agreement set forth in this Section 9(a) shall be in addition to any liabilities that the Company may otherwise have.

(b) Indemnification of the Company and its Directors and Officers and Controlling Persons. The Underwriters agree, severally and not jointly, to indemnify and hold harmless the Company, each of its directors, each of its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, against any loss, claim, damage, liability or expense, as incurred, to which the Company, or any such director, officer or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Offered Securities have been offered or sold or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433 of the Securities Act or the Prospectus (or any such amendment or supplement) or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, such preliminary prospectus, the Time of Sale Prospectus, such free writing prospectus, road show or the Prospectus (or any such amendment or supplement), in reliance upon and in conformity with information relating to such Underwriter furnished to the Company by the Representatives in writing expressly for use therein; and to reimburse the Company, or any such director, officer or controlling person for any and all expenses (including the reasonable fees and disbursements of counsel) as such expenses are reasonably incurred by the Company, or any such director, officer or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action. The Company hereby acknowledges that the only information that the Representatives have furnished to the Company expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) of the Securities Act or the Prospectus (or any amendment or supplement to the foregoing) are the statements set forth in the first sentence of the first paragraph under the caption “Underwriting—Commission and Expenses” (with respect to the amount of the selling concession), the statements under the caption “Underwriting—Stabilization” (with respect to short sale transactions, stabilizing transactions, syndicate covering transactions, penalty bids and passive market-making), and the statements under the caption “Underwriting—Electronic Distribution” (with respect to the delivery or prospectuses electronically and online distributions), in the Final Prospectus Supplement. The indemnity agreement set forth in this Section 9(b) shall be in addition to any liabilities that each Underwriter may otherwise have.

(c) Notifications and Other Indemnification Procedures. Promptly after receipt by an indemnified party under this Section 9 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 9, notify the indemnifying party in writing of the commencement thereof, but the omission so to notify the indemnifying party will not relieve the indemnifying party from any liability which it may have to any indemnified party to the extent the indemnifying party is not materially prejudiced as a proximate result of such failure and shall not in any event relieve the indemnifying party from any liability that it may have otherwise than on account of this indemnity agreement. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably

satisfactory to such indemnified party; *provided, however*, that if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election so to assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 9 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel (together with local counsel), representing the indemnified parties who are parties to such action), which counsel (together with any local counsel) for the indemnified parties shall be selected by the Representatives (in the case of counsel for the indemnified parties referred to in Section 9(a) above) or by the Company (in the case of counsel for the indemnified parties referred to in Section 9(b) above), (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the fees and expenses of counsel shall be at the expense of the indemnifying party and shall be paid as they are incurred.

(d) Settlements. The indemnifying party under this Section 9 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 9(c) hereof, the indemnifying party shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise or consent includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit or proceeding and does not include an admission of fault or culpability or a failure to act by or on behalf of such indemnified party.

Section 10. Contribution. If the indemnification provided for in Section 9 is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any losses, claims, damages, liabilities or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any losses, claims, damages, liabilities or expenses referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Offered Securities pursuant to this Agreement or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriters, on the other hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, 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 hand, in connection with the offering of the Offered Securities pursuant to this Agreement shall be deemed to be in the same respective proportions as the total gross proceeds from the offering of the Offered Securities pursuant to this Agreement (before deducting expenses) received by the Company, and the total underwriting discounts and commissions received by the Underwriters, in each case as set forth on the front cover page of the Prospectus, bear to the aggregate initial offering price of the Offered Securities as set forth on such cover. The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or 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 hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in Section 9(c), any reasonable and reasonably documented legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 9(c) with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 10; *provided, however*, that no additional notice shall be required with respect to any action for which notice has been given under Section 9(c) for purposes of indemnification.

The Company and each Underwriter agree that it would not be just and equitable if contribution pursuant to this Section 10 were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 10.

Notwithstanding the provisions of this Section 10, each Underwriter shall not be required to contribute any amount in excess of the underwriting discounts and commissions received by the Underwriters in connection with the Offered Securities underwritten by it and distributed to the purchasers. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 10 are several, and not joint, in proportion to their respective underwriting commitments as set forth opposite their respective names on Schedule A. For purposes of this Section 10, each affiliate, director, officer, employee and agent of the Underwriters and each person, if any, who controls the Underwriters within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as the Underwriters, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

Section 11. Default of One or More of the Several Underwriters. If, on the First Closing Date or any Option Closing Date any one or more of the several Underwriters shall fail or refuse to purchase Offered Securities that it or they have agreed to purchase hereunder on such date, and the aggregate number of Offered Securities which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase does not exceed 10% of the aggregate number of the Offered Securities to be purchased on such date, the Representatives may make arrangements satisfactory to the Company for the purchase of such Offered Securities by other persons, including any of the Underwriters, but if no such arrangements are made by such date, the other Underwriters shall be obligated, severally and not jointly, in the proportions that the number of Offered Securities set forth opposite their respective names on Schedule A bears to the aggregate number of Offered Securities set forth opposite the names of all such non-defaulting Underwriters, or in such other proportions as may be specified by the Representatives with the consent of the non-defaulting Underwriters, to purchase the Offered Securities which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date. If, on the First Closing Date or any Option Closing Date any

one or more of the Underwriters shall fail or refuse to purchase Offered Securities and the aggregate number of Offered Securities with respect to which such default occurs exceeds 10% of the aggregate number of Offered Securities to be purchased on such date, and arrangements satisfactory to the Representatives and the Company for the purchase of such Offered Securities are not made within 48 hours after such default, this Agreement shall terminate without liability of any party to any other party except that the provisions of Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination. In any such case either the Representatives or the Company shall have the right to postpone the First Closing Date or the applicable Option Closing Date, as the case may be, but in no event for longer than seven days in order that the required changes, if any, to the Registration Statement and the Prospectus or any other documents or arrangements may be effected.

As used in this Agreement, the term "Underwriter" shall be deemed to include any person substituted for a defaulting Underwriter under this Section 11. Any action taken under this Section 11 shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

Section 12. Termination of this Agreement. Prior to the purchase of the Firm Securities by the Underwriters on the First Closing Date, this Agreement may be terminated by the Representatives by notice given to the Company if at any time: (i) trading or quotation in any of the Company's securities shall have been suspended or limited by the Commission or by the Nasdaq, or trading in securities generally on either the Nasdaq or the New York Stock Exchange shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges; (ii) a general banking moratorium shall have been declared by any of federal, New York, California authorities; (iii) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States' or international political, financial or economic conditions, as in the judgment of the Representatives is material and adverse and makes it impracticable to market the Offered Securities in the manner and on the terms described in the Time of Sale Prospectus or the Prospectus or to enforce contracts for the sale of securities; (iv) in the judgment of the Representatives there shall have occurred any Material Adverse Change; or (v) the Company shall have sustained a loss by strike, fire, flood, earthquake, accident or other calamity of such character as in the judgment of the Representatives may interfere materially with the conduct of the business and operations of the Company regardless of whether or not such loss shall have been insured. Any termination pursuant to this Section 12 shall be without liability on the part of (a) the Company to the Underwriters, except that the Company shall be obligated to reimburse the expenses of the Underwriters pursuant to Section 4 or Section 7 hereof or (b) the Underwriters to the Company; *provided, however*, that the provisions of Section 9 and Section 10 shall at all times be effective and shall survive such termination.

Section 13. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Offered Securities pursuant to this Agreement, including the determination of the public offering price of the Securities Shares and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, and does not constitute a recommendation, investment advice, or solicitation of any action by the Underwriters, (b) in connection with the offering contemplated hereby and the process leading to such transaction, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, creditors or employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) and the Underwriters have no obligation to the Company with respect to the offering contemplated hereby except the obligations expressly set forth in this Agreement, (d) the Underwriters and their affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, (e) the

Underwriters have not provided any legal, accounting, regulatory, investment or tax advice with respect to the offering contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate, and (f) none of the activities of the Underwriters in connection with the transaction contemplated herein constitutes a recommendation, investment advice, or solicitation of any action by the Underwriters with respect to any entity or natural person.

Section 14. Representations and Indemnities to Survive Delivery. The respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers and of the several Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter or the Company or any of its or their partners, officers or directors or any controlling person, as the case may be, and, anything herein to the contrary notwithstanding, will survive delivery of and payment for the Offered Securities sold hereunder and any termination of this Agreement.

Section 15. Notices. All communications hereunder shall be in writing and shall be mailed, hand delivered or telecopied and confirmed to the parties hereto as follows:

If to the Representatives:	Jefferies LLC 520 Madison Avenue New York, New York 10022 Attention: General Counsel J.P. Morgan Securities LLC 270 Park Avenue New York, New York 10017 Facsimile: (212) 622-8358 Attention: Equity Syndicate Desk
with a copy to:	Latham & Watkins LLP 12670 High Bluff Drive San Diego, CA 92130 Facsimile: (858) 523-5450 Attention: Cheston J. Larson; Matthew T. Bush
If to the Company:	Arrowhead Pharmaceuticals, Inc. 177 E. Colorado Blvd., Suite 700 Pasadena, CA 91105 Facsimile: (626) 304-3401 Attention: General Counsel
with a copy to:	Gibson, Dunn & Crutcher LLP One Embarcadero Center, Suite 2600 San Francisco, CA 94111 Facsimile: (415) 374-8430 Attention: Stewart L. McDowell; Ryan A. Murr; Branden Berns

Any party hereto may change the address for receipt of communications by giving written notice to the others.

Section 16. Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto, including any substitute Underwriters pursuant to Section 11 hereof and to the benefit of the affiliates, directors, officers, employees, agents and controlling persons referred to in Section 9 and Section 10, and in each case their respective successors, and no other person will have any right or obligation hereunder. The term “**successors**” shall not include any purchaser of the Offered Securities as such from any of the Underwriters merely by reason of such purchase.

Section 17. Partial Unenforceability. The invalidity or unenforceability of any section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph or provision hereof. If any section, paragraph 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.

Section 18. Waiver of Jury Trial. Each of the parties hereto hereby waives any right to trial by jury in any suit or proceeding arising out of or relating to this Agreement.

Section 19. 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.

For purposes of this Agreement, (A) “**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); (B) “**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); (C) “**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 (D) “**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.

Section 20. Governing Law Provisions. 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. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the “**Specified Courts**”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court, as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party’s address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

Section 21. General Provisions. 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. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and may be delivered by facsimile transmission or by electronic delivery of a portable document format (PDF) file. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

Each of the parties hereto acknowledges that it is a sophisticated business person who was adequately represented by counsel during negotiations regarding the provisions hereof, including, without limitation, the indemnification provisions of Section 9 and the contribution provisions of Section 10, and is fully informed regarding said provisions. Each of the parties hereto further acknowledges that the provisions of Section 9 and Section 10 hereof fairly allocate the risks in light of the ability of the parties to investigate the Company, its affairs and its business in order to assure that adequate disclosure has been made in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, each free writing prospectus and the Prospectus (and any amendments and supplements to the foregoing), as contemplated by the Securities Act and the Exchange Act.

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms.

Very truly yours,

ARROWHEAD PHARMACEUTICALS, INC.

By: /s/ Christopher Anzalone

Name: Christopher Anzalone

Title: President and Chief Executive Officer

[Signature Page to Underwriting Agreement (Equity)]

The foregoing Underwriting Agreement is hereby confirmed and accepted by the Representatives in New York, New York as of the date first above written.

JEFFERIES LLC
J.P. MORGAN SECURITIES LLC

Acting as Representatives of the several
Underwriters named in the attached Schedule A

By: Jefferies LLC

By: /s/ Michael Brinkman

Name: Michael Brinkman

Title: Managing Director

By: J.P. Morgan Securities LLC

By: /s/ Suraj Vasishtha

Name: Suraj Vasishtha

Title: Vice President

[Signature Page to Underwriting Agreement (Equity)]

Underwriters	Number of Firm Shares to be Purchased	Number of Pre-Funded Warrants to be Purchased
Jefferies LLC	542,637	542,636
J.P. Morgan Securities LLC	542,637	542,636
BofA Securities, Inc.	155,039	155,038
Piper Sandler & Co.	155,038	155,039
RBC Capital Markets, LLC	155,038	155,038
Total	1,550,389	1,550,387

SCA-1

Free Writing Prospectuses Included in the Time of Sale Prospectus

- Free Writing Prospectus, dated January 7, 2026, related to the Pre-Funded Warrants.
- Free Writing Prospectus, dated January 7, 2026, related to the final term sheet.

SCB-1

Pricing Information

1. Preliminary prospectus dated January 6, 2026
2. Price per Share to the public: \$64.50
3. Price per Pre-Funded Warrant to the public: \$64.4990
4. Number of Firm Shares offered: 1,550,389
5. Number of Warrant Shares issuable upon exercise of the Pre-Funded Warrants offered: 1,550,387
6. Underwriters' option to purchase Optional Shares: 465,116

SCC-1

Pricing Term Sheet

[See attached.]

SCD-1

Form of Lock-up AgreementLock-up Agreement

January __, 2026

J.P. MORGAN SECURITIES LLC
JEFFERIES LLC

As Representatives of the several underwriters named in the Underwriting Agreements

c/o J.P. Morgan Securities LLC
270 Park Avenue
New York, New York 10017

c/o Jefferies LLC
520 Madison Avenue
New York, New York 10022

RE: Arrowhead Pharmaceuticals, Inc. (the "**Company**")

Ladies & Gentlemen:

The undersigned is an owner of shares of common stock, par value \$0.001 per share, of the Company ("**Shares**") or of securities convertible into or exchangeable or exercisable for Shares. The Company proposes to conduct (i) a public offering (the "**Debt Offering**") of its convertible senior notes (the "**Notes**," and together with the Shares, the "**Securities**") pursuant to an underwriting agreement (the "**Debt Underwriting Agreement**") and/or (ii) a public offering of Shares (the "**Equity Offering**," and together with the Debt Offering, the "**Offerings**") pursuant to an underwriting agreement (the "**Equity Underwriting Agreement**," and together with the Debt Underwriting Agreement, the "**Underwriting Agreements**"), for both of which J.P. Morgan Securities LLC and Jefferies LLC will act as representatives (the "**Representatives**") of the several underwriters named therein (the "**Underwriters**"). The undersigned recognizes that the Offerings will benefit each of the Company and the undersigned. The undersigned acknowledges that the Underwriters are relying on the representations and agreements of the undersigned contained in this letter agreement in conducting the Offerings and, at a subsequent date, in entering into the Underwriting Agreements and other underwriting arrangements with the Company with respect to the Offerings. In the event that the Company and the Representatives determine to only commence the Debt Offering, then references herein to the term "Offerings" shall mean the "Debt Offering," "Securities" shall mean "Notes," and "Underwriting Agreements" shall mean "Debt Underwriting Agreement," while if such parties determine to only commence the Equity Offering, then references herein to the term "Offerings" shall mean "Equity Offering," "Securities" shall mean "Shares" and "Underwriting Agreements" shall mean "Equity Underwriting Agreement."

Annex A sets forth definitions for capitalized terms used in this letter agreement that are not defined in the body of this letter agreement. Those definitions are a part of this letter agreement. In consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby agrees that, during the Lock-up Period, the undersigned will not (and will cause any Family Member not to), without the prior written consent of the Representatives, which may withhold their consent in their sole discretion:

- Sell or Offer to Sell any Shares or Related Securities currently or hereafter owned either of record or beneficially (as defined in Rule 13d-3 under the Exchange Act) by the undersigned or such Family Member,
- enter into any Swap,
- make any demand for, or exercise any right with respect to, the registration under the Securities Act of the offer and sale of any Shares or Related Securities, or cause to be filed a registration statement, prospectus or prospectus supplement (or an amendment or supplement thereto) with respect to any such registration, or
- publicly announce any intention to do any of the foregoing.

The foregoing will not apply to the registration of the offer and sale of the Securities, and the sale of the Securities to the Underwriters, in each case as contemplated by the Underwriting Agreements. The foregoing will not apply to: (A) the establishment of a new trading plan pursuant to Rule 10b5-1 under the Exchange Act providing for dispositions or sales of Shares, provided that (x) such plan does not permit dispositions or sales of Shares or any Related Securities during the Lock-up Period and (y) no public announcement or filing regarding such plan is required to be made, or is voluntarily made, during the Lock-up Period by or on behalf of the Company or the undersigned, except as required under applicable securities laws, in which case, any public announcement or filing under the Exchange Act made by any person regarding the establishment of such plan during the Lock-up Period shall include a statement that the undersigned is not permitted to transfer, sell or otherwise dispose of Shares under such plan during the Lock-up Period in contravention of this letter agreement; (B) sales or transfers of Shares made pursuant to a trading plan pursuant to Rule 10b5-1 under the Exchange Act that has been entered into by the undersigned prior to the date of this letter agreement, provided, that a copy of such plan has been made available to the Representatives and, provided further, that no public announcement or filing under the Exchange Act is voluntarily made by or on behalf of the undersigned or the Company and, provided further, that to the extent a public announcement or filing under the Exchange Act, if any, is required by or on behalf of the undersigned or the Company regarding any such sales or transfers, such announcement or filing shall include a statement to the effect that the sale or transfer was made pursuant to a trading plan pursuant to Rule 10b5-1; (C) the exercise of options to purchase Shares granted under any stock incentive plan or stock purchase plan of the Company, provided that the underlying Shares shall continue to be subject to the restrictions on transfer set forth in this letter agreement and provided further that any filing under Section 16(a) of the Exchange Act with regard to this clause (C) shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this clause (C), and no other public announcement shall be required or shall be made voluntarily in connection with such exercise; (D) the transfer of Shares (or any security convertible into Shares) to the Company or sold in connection with a vesting event of the Company's securities (including performance share units) or upon the exercise of options to purchase the Company's securities, on a "cashless" or "net exercise" basis or to cover tax withholding obligations of the undersigned in connection with such vesting or exercise provided that any filing under Section 16(a) of the Exchange Act with regard to this clause (D) shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this clause (D), and no other public announcement shall be required or shall be made voluntarily in connection with such exercise; (E) the transfer or disposition of the undersigned's Shares (or any Related Securities) that occurs by operation of law, such as pursuant to a qualified domestic order or in connection with a divorce settlement provided that each transferee shall sign and deliver a lock-up agreement substantially in the form of this letter agreement; (F) the transfer of Shares (or any Related Securities) pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction made to all holders of the Shares involving a change of control of the Company provided that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the Shares owned by the undersigned shall remain subject to the restrictions contained in this letter agreement; or (G) by bona fide gift, provided that each donee executes and delivers to the Representatives an agreement in form and substance satisfactory to the Representatives stating that such transferee is receiving and holding such Shares and/or Related Securities subject to the provisions of this letter agreement and agrees not to Sell or Offer to Sell such Shares and/or Related Securities, engage in any Swap or engage in any other activities restricted under this letter agreement except in accordance with this letter agreement (as if such transferee had been an original signatory hereto).

In addition, the foregoing restrictions shall not apply to the transfer of Shares or Related Securities by (i) will or intestate succession to a legal representative, heir, beneficiary or Family Member, (ii) to a trust whose beneficiaries consist exclusively of one or more of the undersigned and/or a Family Member, (iii) to any corporation, partnership, limited liability company, investment fund or other entity controlled or managed, or under common control or management by the undersigned or a Family Member, or (iv) as distributions to partners, members or stockholders of the undersigned; *provided, however*, that in any such case, it shall be a condition to such transfer that:

- each transferee executes and delivers to the Representatives an agreement in form and substance satisfactory to the Representatives stating that such transferee is receiving and holding such Shares and/or Related Securities subject to the provisions of this letter agreement and agrees not to Sell or Offer to Sell such Shares and/or Related Securities, engage in any Swap or engage in any other activities restricted under this letter agreement except in accordance with this letter agreement (as if such transferee had been an original signatory hereto), and
- prior to the expiration of the Lock-up Period, no public disclosure or filing under the Exchange Act by any party to the transfer (transferor or transferee) shall be required, or made voluntarily, reporting a reduction in beneficial ownership of Shares in connection with such transfer (other than a filing on a Form 5).

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of Shares or Related Securities held by the undersigned and the undersigned's Family Members, if any, except in compliance with the foregoing restrictions.

With respect to the Offerings only, from the date hereof until the expiration of the lock up period, the undersigned waives any registration rights relating to registration under the Securities Act, the offer and sale of any Shares and/or any Related Securities owned either of record or beneficially by the undersigned, including any rights to receive notice of the Offerings.

The undersigned confirms that the undersigned has not, and has no knowledge that any Family Member has, directly or indirectly, taken any action designed to or that might reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale of the Shares. The undersigned will not, and will cause any Family Member not to take, directly or indirectly, any such action.

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 Offerings and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate.

Whether or not the Offerings occur as currently contemplated or at all depends on market conditions and other factors. The Offerings will only be made pursuant to the Underwriting Agreements, the terms of which are subject to negotiation between the Company and the Representatives.

The undersigned hereby represents and warrants that the undersigned has full power, capacity and authority to enter into this letter agreement. This letter agreement is irrevocable and will be binding on the undersigned and the successors, heirs, personal representatives and assigns of the undersigned.

This letter agreement and related restrictions shall automatically terminate upon the earliest to occur, if any, of (a) the Representatives, on the one hand, or the Company, on the other hand, advising the other in writing that it has determined not to proceed with the Offerings, (b) the termination of the Underwriting Agreements before the sale of any Securities to the Underwriters or (c) January 31, 2026, if the Offerings have not closed by such date.

This letter agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

This letter 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 www.echosign.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.

[Signature page follows]

Signature

Printed Name of Person Signing

(Indicate capacity of person signing if signing as custodian or trustee, or on behalf of an entity)

Annex A

Certain Defined Terms Used in Lock-up Agreement

For purposes of the letter agreement to which this Annex A is attached and of which it is made a part:

- “**Call Equivalent Position**” shall have the meaning set forth in Rule 16a-1(b) under the Exchange Act.
- “**Exchange Act**” shall mean the Securities Exchange Act of 1934, as amended.
- “**Family Member**” shall mean the spouse of the undersigned, an immediate family member of the undersigned or an immediate family member of the undersigned’s spouse, in each case living in the undersigned’s household or whose principal residence is the undersigned’s household (regardless of whether such spouse or family member may at the time be living elsewhere due to educational activities, health care treatment, military service, temporary internship or employment or otherwise). “**Immediate family member**” as used above shall have the meaning set forth in Rule 16a-1(e) under the Exchange Act.
- “**Lock-up Period**” shall mean the period beginning on the date hereof and continuing through the close of trading on the date that is 45 days after the date of the Prospectus (as defined in the Underwriting Agreements).
- “**Put Equivalent Position**” shall have the meaning set forth in Rule 16a-1(h) under the Exchange Act.
- “**Related Securities**” shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for or convertible into Shares.
- “**Securities Act**” shall mean the Securities Act of 1933, as amended.
- “**Sell or Offer to Sell**” shall mean to:
 - sell, offer to sell, contract to sell or lend,
 - effect any short sale or establish or increase a Put Equivalent Position or liquidate or decrease any Call Equivalent Position,
 - pledge, hypothecate or grant any security interest in, or
 - in any other way transfer or dispose of,in each case whether effected directly or indirectly.
- “**Swap**” shall mean any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of Shares or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise.

Capitalized terms not defined in this Annex A shall have the meanings given to them in the body of this lock-up agreement.

Directors and Officers
Signing Lock-up Agreement

Directors:

Mauro Ferrari
Douglass Ingram
Hongbo Lu
Adeoye Olukotun
Michael S. Perry
Victoria Vakiener
William Waddill

Officers:

Christopher Anzalone (also a Director)
Daniel Apel
Patrick O'Brien
Javier San Martin
James Hamilton
Tracie Oliver

\$625,000,000 0% Convertible Senior Notes Due 2032**Arrowhead Pharmaceuticals, Inc.****UNDERWRITING AGREEMENT**

January 7, 2026

J.P. MORGAN SECURITIES LLC
JEFFERIES LLC
As Representatives of the several Underwriters

c/o J.P. Morgan Securities LLC
270 Park Avenue
New York, New York 10017

c/o Jefferies LLC
520 Madison Avenue
New York, New York 10022

Ladies and Gentlemen:

Introductory. Arrowhead Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), proposes to issue and sell to the several underwriters named in Schedule A (the “**Underwriters**”) \$625,000,000 principal amount of its 0% Convertible Senior Notes due 2032 (the “**Securities**”). The \$625,000,000 principal amount of Securities to be sold by the Company are called the “**Firm Securities**.” In addition, the Company has granted to the Underwriters an option to purchase up to an additional \$75,000,000 principal amount of Securities (the “**Optional Securities**”) as provided in Section 2. The Firm Securities and, if and to the extent such option is exercised, the Optional Securities are collectively called the “**Offered Securities**.” The Offered Securities will be convertible into cash, shares (the “**Underlying Securities**”) of common stock, par value \$0.001 per share, of the Company (the “**Common Stock**”), or a combination of cash and Underlying Securities, at the Company’s election. The Securities will be issued pursuant to an indenture (the “**Base Indenture**”), as supplemented by a supplemental indenture (the Base Indenture, as so supplemented, the “**Indenture**”), in each case, to be dated as of the First Closing Date (as hereinafter defined), between the Company and U.S. Bank Trust Company, National Association, as trustee (the “**Trustee**”). J.P. Morgan Securities LLC (“**J.P. Morgan**”) and Jefferies LLC (“**Jefferies**”) have agreed to act as representatives of the several Underwriters (in such capacity, the “**Representatives**”) in connection with the offering and sale of the Offered Securities. To the extent there are no additional underwriters listed on Schedule A, the term “Representatives” as used herein shall mean you, as Underwriters, and the term “Underwriters” shall mean either the singular or the plural, as the context requires.

Substantially concurrently with the offering of the Offered Securities, the Company will issue and sell up to 1,550,389 shares of Common Stock (the “**Shares**”) and pre-funded warrants to purchase 1,550,387 Shares (the “**Pre-Funded Warrants**”) pursuant to a separate underwriting agreement and separate prospectus supplement, subject to customary closing conditions (such offering, the “**Concurrent Offering**”). The offering of the Offered Securities is not contingent upon the completion of the Concurrent Offering, the Concurrent Offering is not contingent upon the completion of the offering of the Offered Securities, and the Offered Securities are not being offered together with the Shares and the Pre-Funded Warrants.

In connection with the offering of the Firm Securities, the Company is separately entering into privately negotiated capped call transactions with one or more counterparties, which may include the Underwriters, their respective affiliates and/or other financial institutions (each, a “**Capped Call Counterparty**”), in each case pursuant to a capped call confirmation (each, a “**Base Capped Call Confirmation**”), each dated the date hereof and in connection with the issuance of any Optional Securities, the Company and each Capped Call Counterparty may enter into additional capped call transactions, in each case, pursuant to an additional capped call confirmation (each, an “**Additional Capped Call Confirmation**” and, together with the Base Capped Call Confirmations, the “**Capped Call Confirmations**”), each to be dated the date on which the option granted to the Underwriters pursuant to Section 2 hereof to purchase such Optional Securities is exercised.

The Company has prepared and filed with the Securities and Exchange Commission (the “**Commission**”) a shelf registration statement on Form S-3, File No. 333-292061, including a base prospectus (the “**Base Prospectus**”) to be used in connection with the public offering and sale of the Offered Securities. Such registration statement, as amended, including the financial statements, exhibits and schedules thereto, in the form in which it became effective under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (collectively, the “**Securities Act**”), including all documents incorporated or deemed to be incorporated by reference therein and any information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430A or 430B under the Securities Act, is called the “**Registration Statement**.” Any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offer and sale of the Offered Securities is called the “**Rule 462(b) Registration Statement**,” and, from and after the date and time of filing of any such Rule 462(b) Registration Statement, the term “Registration Statement” shall include the Rule 462(b) Registration Statement. The preliminary prospectus supplement dated January 6, 2026 describing the Offered Securities and the offering thereof (the “**Preliminary Prospectus Supplement**”), together with the Base Prospectus, is called the “**Preliminary Prospectus**,” and the Preliminary Prospectus and any other prospectus supplement to the Base Prospectus in preliminary form that describes the Offered Securities and the offering thereof and is used prior to the filing of the Prospectus (as defined below), together with the Base Prospectus, is called a “**preliminary prospectus**.” As used herein, the term “**Prospectus**” shall mean the final prospectus supplement to the Base Prospectus that describes the Offered Securities and the offering thereof (the “**Final Prospectus Supplement**”), together with the Base Prospectus, in the form first used by the Underwriters to confirm sales of the Offered Securities or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act. References herein to the Preliminary Prospectus, any preliminary prospectus and the Prospectus shall refer to both the prospectus supplement and the Base Prospectus components of such prospectus. As used herein, “**Applicable Time**” is 10:00 p.m. (New York City time) on January 7, 2026. As used herein, “**free writing prospectus**” has the meaning set forth in Rule 405 under the Securities Act, and “**Time of Sale Prospectus**” means the Preliminary Prospectus, as amended or supplemented immediately prior to the Applicable Time, together with the free writing prospectuses, if any, identified in Schedule B hereto, the pricing information set forth on Schedule C hereto and the pricing term sheet set forth on Schedule D hereto. As used herein, “**Road Show**” means a “road show” (as defined in Rule 433 under the Securities Act) relating to the offering of the Offered Securities contemplated hereby that is a “written communication” (as defined in Rule 405 under the Securities Act).

All references in this Agreement to the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus and the Prospectus shall include the documents incorporated or deemed to be incorporated by reference therein. All references in this Agreement to financial statements and schedules and other information which are “contained,” “included” or “stated” in, or “part of” the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, and all other references of like import, shall be deemed to mean and include all such financial statements and schedules and other

information which is or is deemed to be incorporated by reference in the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, as the case may be. All references in this Agreement to amendments or supplements to the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus shall be deemed to mean and include the filing of any document under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the “**Exchange Act**”) that is or is deemed to be incorporated by reference in the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, or the Prospectus, as the case may be. All references in this Agreement to (i) the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus or the Prospectus, any amendments or supplements to any of the foregoing, or any free writing prospectus, shall include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“**EDGAR**”) and (ii) the Prospectus shall be deemed to include any “electronic Prospectus” provided for use in connection with the offering of the Offered Securities as contemplated by Section 3(o) of this Agreement.

In the event that the Company has only one subsidiary, then all references herein to “subsidiaries” of the Company shall be deemed to refer to such single subsidiary, mutatis mutandis.

The Company hereby confirms its agreements with the Underwriters as follows:

Section 1. Representations and Warranties of the Company. The Company hereby represents, warrants and covenants to each Underwriter, as of the date of this Agreement, as of the First Closing Date and as of each Option Closing Date (as hereinafter defined), if any, as follows:

(a) Compliance with Registration Requirements. The Registration Statement has become effective under the Securities Act. The Company has complied to the Commission’s satisfaction with all requests of the Commission for additional or supplemental information. No stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the best knowledge of the Company, are contemplated or threatened by the Commission. At the time the Company’s Annual Report on Form 10-K for the fiscal year ended September 30, 2025 (the “**Annual Report**”) was filed with the Commission, or, if later, at the time the Registration Statement was originally filed with the Commission, as well as at the time the Company or any person acting on its behalf (within the meaning, for this clause only, of Rule 163(c) under the Securities Act) made any offer relating to the Offered Shares in reliance on the exemption of Rule 163 under the Securities Act, the Company was a “well known seasoned issuer” as defined in Rule 405 under the Securities Act. The Registration Statement is an “automatic shelf registration statement,” as defined in Rule 405 under the Securities Act, and became effective on December 11, 2025. The Company has not received from the Commission any notice pursuant to Rule 401(g)(2) under the Securities Act objecting to the Company’s use of the automatic shelf registration form. The Company meets the requirements of an “Experienced Issuer” as defined in FINRA Rule 5110(j)(6). The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, at the time they were or hereafter are filed with the Commission, or became effective under the Exchange Act, as the case may be, complied and will comply in all material respects with the requirements of the Exchange Act.

(b) Disclosure. Each preliminary prospectus and the Prospectus when filed complied in all material respects with the Securities Act and, if filed with the Commission through its Electronic Data Gathering, Analysis and Retrieval system (“**EDGAR**”) by electronic transmission pursuant to EDGAR (except as may be permitted by Regulation S-T under the Securities Act), was identical to the copy thereof delivered to the Underwriters for use in connection with the offer and sale of the Offered Securities. Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes

effective, complied and will comply in all material respects with the Securities Act and the Trust Indenture Act of 1939, as amended, and the rules and regulations of the Commission thereunder (collectively, the “**Trust Indenture Act**”) and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the Applicable Time, the Time of Sale Prospectus (including any preliminary prospectus wrapper) did not, and at the First Closing Date (as defined in Section 2) and at each applicable Option Closing Date (as defined in Section 2), will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus (including any prospectus wrapper), as of its date, did not, and at the First Closing Date and at each applicable Option Closing Date, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the three immediately preceding sentences do not apply to (i) that part of the Registration Statement that constitutes the Statement of Eligibility and Qualification (Form T-1) of the Trustee under the Trust Indenture Act or (ii) statements in or omissions from the Registration Statement or any post-effective amendment thereto, or the Prospectus or the Time of Sale Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with written information relating to any Underwriter furnished to the Company in writing by the Representatives expressly for use therein, it being understood and agreed that the only such information consists of the information described in Section 9(b) below. The statements set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption “Description of Notes” and “Description of Securities” insofar as they purport to constitute a summary of the terms of the Offered Securities and the Common Stock, and under the caption “Material U.S. Federal Income Tax Considerations” insofar as they purport to describe the provisions of laws and the factual conclusions with respect thereto referred to therein, in each case, are accurate and complete in all material respects. There are no contracts or other documents required to be described in the Time of Sale Prospectus or the Prospectus or to be filed as exhibits to the Registration Statement which have not been described or filed as required.

(c) Free Writing Prospectuses; Road Show. As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, is not or will not be (as applicable) an “ineligible issuer” in connection with the offering of the Offered Securities pursuant to Rules 164, 405 and 433 under the Securities Act. Each free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act, including timely filing with the Commission or retention where required and legending, and each such free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Offered Securities 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 Prospectus or any preliminary prospectus and not superseded or modified. Except for the free writing prospectuses, if any, identified in Schedule B, and electronic road shows, if any, furnished to you before first use, the Company has not prepared, used or referred to, and will not, without your prior written consent, prepare, use or refer to, any free writing prospectus. Each Road Show, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(d) Distribution of Offering Material By the Company. Prior to the later of (i) the expiration or termination of the option granted to the several Underwriters in Section 2 and (ii) the completion of the Underwriters’ distribution of the Offered Securities, the Company has not distributed and will not distribute any offering material in connection with the offering and sale of the Offered Securities other than the Registration Statement, the Time of Sale Prospectus, the Prospectus, any free writing prospectus reviewed and consented to by the Representatives or the free writing prospectuses, if any, identified on Schedule B hereto.

(e) *The Indenture.* The Indenture has been duly authorized by the Company and, when duly executed and delivered in accordance with its terms by each of the parties thereto, will constitute a valid and legally binding agreement of the Company enforceable against the Company in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency or similar laws affecting the enforcement of creditors' rights generally or by equitable principles relating to enforceability (collectively, the “**Enforceability Exceptions**”), and the Indenture will conform in all material respects to the requirements of the Trust Indenture Act.

(f) *The Underwriting Agreement.* This Agreement has been duly authorized, executed and delivered by the Company.

(g) *Capped Call Confirmations.* Each of the Base Capped Call Confirmations has been, and each Additional Capped Call Confirmation on the date of its execution will have been duly authorized, executed and delivered by the Company, and constitutes, or will constitute, as the case may be, a valid and binding agreement of the Company, and, assuming due authorization, execution and delivery of each Base Capped Call Confirmation and each Additional Capped Call Confirmation by each Capped Call Counterparty enforceable against the Company in accordance with its terms, subject to the Enforceability Exceptions. All actions required to be taken by the Company for the consummation by the Company of the transactions contemplated by the Capped Call Confirmations will have been duly and validly taken by it by the First Closing Date or, if applicable for any Additional Capped Call Confirmations dated after the First Closing Date, the Option Closing Date.

(h) *Authorization of the Offered Securities.* The Offered Securities have been duly authorized for issuance and sale pursuant to this Agreement and, when authenticated, issued and delivered by the Company as provided in the Indenture and against payment therefor pursuant to this Agreement, will be duly and validly issued and outstanding and will constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms, subject to the Enforceability Exceptions, and will be entitled to the benefits of the Indenture.

(i) *Authorization of the Underlying Securities.* Upon issuance and delivery of the Offered Securities in accordance with this Agreement and the Indenture, the Offered Securities will be convertible at the option of the holder thereof into cash, Underlying Securities, or a combination of cash and Underlying Securities, at the Company's election, in accordance with the terms of the Offered Securities and the Indenture. The number of Underlying Securities equal to the product of (x) the quotient obtained by dividing the principal amount of Offered Securities (assuming the Underwriters exercise their option to purchase Optional Securities in full) by \$1,000 and (y) the conversion rate for the Offered Securities (assuming the maximum increase to such conversion rate for a conversion of Offered Securities in connection with a “make-whole fundamental change”) (the “**Maximum Number of Underlying Securities**”) have been duly authorized and reserved for issuance by the Company by all necessary corporate action and such Maximum Number of Underlying Securities, if and when issued upon any conversion of the Offered Securities in accordance with the terms of the Offered Securities and the Indenture, will be validly issued, fully paid and non-assessable; no holder of such Underlying Securities will be subject to personal liability by reason of being such a holder; and the issuance of such Underlying Securities upon any such conversion will not be subject to the preemptive rights, rights of first refusal or other similar rights of any security holder of the Company.

(j) Descriptions of the Transaction Documents. This Agreement, the Indenture, the Offered Securities and the Capped Call Confirmations (collectively, the “**Transaction Documents**”), and the Underlying Securities, each conform (or will conform) in all material respects to the description thereof contained in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(k) No Applicable Registration or Other Similar Rights. There are no persons with registration or other similar rights to have any equity or debt securities registered for sale under the Registration Statement or included in the offering contemplated by the Transaction Documents.

(l) No Material Adverse Change. Except as otherwise disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, subsequent to the respective dates as of which information is given in the Registration Statement, the Time of Sale Prospectus and the Prospectus: (i) there has been no material adverse change, or any development that could reasonably be expected to result in a material adverse change, in (A) the condition, financial or otherwise, or in the earnings, business, properties, operations, assets, liabilities or prospects, whether or not arising from transactions in the ordinary course of business, of the Company and its subsidiaries, considered as one entity or (B) the ability of the Company to consummate the transactions contemplated by the Transaction Documents or perform its obligations hereunder and thereunder (any such change being referred to herein as a “**Material Adverse Change**”); (ii) the Company and its subsidiaries, considered as one entity, have not incurred any material liability or obligation, indirect, direct or contingent, including without limitation any losses or interference with its business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its subsidiaries, considered as one entity, or entered into any material transactions not in the ordinary course of business; and (iii) there has not been any material decrease in the capital stock or any material increase in any short-term or long-term indebtedness of the Company or its subsidiaries, and there has been no dividend or distribution of any kind declared, paid or made by the Company or, except for dividends paid to the Company or other subsidiaries, by any of the Company’s subsidiaries on any class of capital stock, or any repurchase or redemption by the Company or any of its subsidiaries of any class of capital stock.

(m) Independent Accountants.

(i) Rose, Snyder & Jacobs, LLP, which has expressed its opinion with respect to the financial statements (which term as used in this Agreement includes the related notes thereto) filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is (i) an independent registered public accounting firm as required by the Exchange Act, and the rules of the Public Company Accounting Oversight Board (“**PCAOB**”), (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(ii) KPMG LLP, which has expressed its opinion with respect to the financial statements (which term as used in this Agreement includes the related notes thereto) filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is (i) an independent registered public accounting firm as required by the Exchange Act, and the rules of the PCAOB, (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(n) Financial Statements. The financial statements filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus present fairly the consolidated financial position of the Company and its subsidiaries as of the dates indicated and the results of their operations, changes in stockholders' equity and cash flows for the periods specified. Such financial statements have been prepared in conformity with generally accepted accounting principles as applied in the United States applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. 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. No other financial statements or supporting schedules are required to be included in the Registration Statement, the Time of Sale Prospectus or the Prospectus. The financial data set forth in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption "Capitalization" fairly present, in all material respects, the information set forth therein on a basis consistent with that of the audited financial statements contained in the Registration Statement, the Time of Sale Prospectus and the Prospectus. All disclosures, if any, contained in the Registration Statement, any preliminary prospectus, the Prospectus and any free writing prospectus that constitute non-GAAP financial measures (as defined by the rules and regulations under the Securities Act and the Exchange Act) comply with Regulation G under the Exchange Act and Item 10 of Regulation S-K under the Securities Act, as applicable. To the Company's knowledge, no person who has been suspended or barred from being associated with a registered public accounting firm, or who has failed to comply with any sanction pursuant to Rule 5300 promulgated by the PCAOB, has participated in or otherwise aided the preparation of, or audited, the financial statements, supporting schedules or other financial data filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(o) Company's Accounting System. The Company and each of its subsidiaries make and keep accurate books and records and maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles as applied in the United States and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (v) the interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto.

(p) Disclosure Controls and Procedures; Deficiencies in or Changes to Internal Control Over Financial Reporting. The Company has established and maintains disclosure controls and procedures (as defined in Rules 13a-15 and 15d-15 under the Exchange Act), which (i) are designed to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to the Company's principal executive officer and its principal financial officer by others within those entities, particularly during the periods in which the periodic reports required under the Exchange Act are being prepared; (ii) have been evaluated by management of the Company for effectiveness as of the end of the Company's most recent fiscal quarter; and (iii) are effective in all material respects to perform the functions for which they were established. Since the end of the Company's most recent audited fiscal year, there have been no significant deficiencies or material weaknesses in the Company's internal control over financial reporting (whether or not remediated) and no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company is not aware of any change in its internal control over financial reporting that has occurred during its most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(q) Incorporation and Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation and has the corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus and to enter into and perform its obligations under the Transaction Documents. The Company is duly qualified as a foreign corporation to transact business and is in good standing in the State of California and each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to be so qualified and in good standing could not be expected, individually or in the aggregate, to result in a Material Adverse Change.

(r) Subsidiaries. Each of the Company's "subsidiaries" (for purposes of this Agreement, shall have the meaning set forth in Rule 405 under the Securities Act except "subsidiaries" shall not include Visirna Therapeutics, Inc. ("**Visirna**") unless otherwise specifically included), including Visirna, has been duly incorporated or organized, as the case may be, and is validly existing as a corporation, partnership or limited liability company, as applicable, in good standing, if applicable, under the laws of the jurisdiction of its incorporation or organization and has the power and authority (corporate or other) to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus. Each of the Company's subsidiaries, including Visirna, is duly qualified as a foreign corporation, partnership or limited liability company, as applicable, to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to be so qualified and in good standing could not be expected, individually or in the aggregate, to result in a Material Adverse Change. All of the issued and outstanding capital stock or other equity or ownership interests of each of the Company's subsidiaries, including Visirna, have been duly authorized and validly issued, are fully paid and nonassessable and, except as disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, are owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance or adverse claim. Other than Visirna, the Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21.1 to the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2025. Visirna does not qualify as a "significant subsidiary" of the Company as defined in Rule 405 under the Securities Act.

(s) Capitalization and Other Capital Stock Matters. The authorized, issued and outstanding capital stock of the Company is as set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the captions "Capitalization" and "Description of Securities" (other than for subsequent issuances, if any, pursuant to employee benefit plans, upon the exercise of outstanding options or warrants or the vesting of restricted stock units, in each case as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus). All of the issued and outstanding Common Stock have been duly authorized and validly issued, are fully paid and nonassessable and have been issued in compliance with all federal and state securities laws. None of the outstanding 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. There are no authorized or outstanding options, warrants, 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 or any of its subsidiaries other than those described in the Registration Statement, the Time of Sale Prospectus and the Prospectus. The descriptions of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, arrangements, options and rights.

(t) Stock Exchange Listing. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and are listed on The Nasdaq Global Select Market (the “**Nasdaq**”), and the Company has taken no action designed to, or 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, nor has the Company received any notification that the Commission or the Nasdaq is contemplating terminating such registration or listing. To the Company’s knowledge, it is in compliance with all applicable listing requirements of Nasdaq.

(u) Non-Contravention of Existing Instruments; No Further Authorizations or Approvals Required. Neither the Company nor any of its subsidiaries is in violation of its charter or by-laws, partnership agreement or operating agreement or similar organizational documents, as applicable, or is in default (or, with the giving of notice or lapse of time, would be in default) (“**Default**”) under any indenture, loan, credit agreement, note, lease, license agreement, contract, franchise or other instrument (including, without limitation, any pledge agreement, security agreement, mortgage or other instrument or agreement evidencing, guaranteeing, securing or relating to indebtedness) to which the Company or any of its subsidiaries is a party or by which it or any of them may be bound, or to which any of their respective properties or assets are subject (each, an “**Existing Instrument**”), except for such Defaults as could not be expected, individually or in the aggregate, to result in a Material Adverse Change. The Company’s execution, delivery and performance of each of the Transaction Documents, consummation of the transactions contemplated by the Transaction Documents and by the Registration Statement, the Time of Sale Prospectus and the Prospectus and the issuance and sale of the Offered Securities (including the issuance and delivery of any Underlying Securities and the payment of any cash, in each case, due upon the conversion thereof and including the use of proceeds from the sale of the Offered Securities as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption “Use of Proceeds”) (i) have been duly authorized by all necessary corporate action and will not result in any violation of the provisions of the charter or by-laws, partnership agreement or operating agreement or similar organizational documents, as applicable, of the Company or any subsidiary, (ii) will not conflict with or constitute a breach of, or Default or a Debt Repayment Triggering Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, or require the consent of any other party to, any Existing Instrument and (iii) will not result in any violation of any law, administrative regulation or administrative or court decree applicable to the Company or any of its subsidiaries, except, in case of each of clauses (ii) and (iii) (but only in respect of laws other than federal securities laws and of administrative regulations or administrative or court decrees other than under federal securities laws) above, for any such conflict, breach, violation, Default, lien, charge or encumbrance that could not be expected, individually or in the aggregate, to result in a Material Adverse Change or materially and adversely affect the consummation of the transactions contemplated by each of the Transaction Documents or the performance by the Company of its obligations hereunder and thereunder. No consent, approval, authorization or other order of, or registration or filing with, any court or other governmental or regulatory authority or agency, is required for the Company’s execution, delivery and performance of each of the Transaction Documents and consummation of the transactions contemplated by the Transaction Documents and by the Registration Statement, the Time of Sale Prospectus and the Prospectus (including the issuance and delivery of any Underlying Securities and the payment of any cash, in each case, due upon the conversion thereof), except such as have been obtained or made by the Company and are in full force and effect under the Securities Act, including, but not limited to, the qualification of the Indenture under the Trust Indenture Act, and such as may be required under applicable state securities or blue sky laws or the Financial Industry Regulatory Authority, Inc. (“**FINRA**”). As used herein, a “**Debt Repayment Triggering Event**” means any event or condition which 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 any of its subsidiaries.

(v) Compliance with Laws. The Company and its subsidiaries, including Visirna, have been and are in compliance with all applicable laws, rules and regulations, and all administrative or court decrees, if any, applicable to them, except where failure to be so in compliance could not be expected, individually or in the aggregate, to result in a Material Adverse Change.

(w) No Material Actions or Proceedings. Except as otherwise disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, there is no action, suit, proceeding, inquiry or investigation brought by or before any governmental entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company or any of its subsidiaries, which could be expected, individually or in the aggregate, to result in a Material Adverse Change or materially and adversely affect the consummation of the transactions contemplated by the Transaction Documents or the performance by the Company of its obligations hereunder and thereunder; and the aggregate of all pending legal or governmental proceedings to which the Company or any such subsidiary is a party or of which any of their respective properties or assets is the subject, including ordinary routine litigation incidental to the business, if determined adversely to the Company, could not be expected to result in a Material Adverse Change. No material labor dispute with the employees of the Company or any of its subsidiaries, nor, to the Company's knowledge, with the employees of any principal supplier, manufacturer, customer or contractor of the Company, exists or, to the knowledge of the Company, is threatened or imminent.

(x) Intellectual Property Rights. The Company and its subsidiaries own, or have obtained valid and enforceable licenses for, the inventions, patent applications, patents, trademarks, trade names, service names, copyrights, trade secrets and other intellectual property described in the Registration Statement, the Time of Sale Prospectus and the Prospectus as being owned or licensed by them or which are necessary for the conduct of their respective businesses as currently conducted or as currently proposed to be conducted (collectively, "Intellectual Property"). To the Company's knowledge: (i) there are no third parties who have rights to any Intellectual Property, except for customary reversionary rights of third-party licensors with respect to Intellectual Property that is disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus as licensed to the Company or one or more of its subsidiaries; and (ii) there is no infringement by third parties of any Intellectual Property. There is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others: (A) challenging the Company's rights in or to any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (B) challenging the validity, enforceability or scope of any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; or (C) asserting that the Company or any of its subsidiaries infringes or otherwise violates, or would, upon the commercialization of any product or service as currently contemplated by the Company described in the Registration Statement, the Time of Sale Prospectus or the Prospectus as under development, infringe or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary rights of others, and the Company is unaware of any facts which would form a reasonable basis for any such finding of infringement or violation of intellectual property rights. The Company and its subsidiaries have complied in all material respects with the terms of each material agreement pursuant to which Intellectual Property has been licensed to the Company or any subsidiary, and all such agreements are in full force and effect. The product candidates described in the Registration Statement, the Time of Sale Prospectus and the Prospectus as under development by the Company or any subsidiary fall within the scope of the claims of one or more patents or pending patent applications owned by, or exclusively licensed to, the Company or any subsidiary.

(y) All Necessary Permits, etc. The Company and its subsidiaries, including Visirna, possess such valid and current certificates, authorizations or permits required by state, federal or foreign regulatory agencies or bodies to conduct their respective businesses as currently conducted and as described in the Registration Statement, the Time of Sale Prospectus or the Prospectus ("**Permits**"), except for such certificates, authorizations or permits whose failure to obtain could not be expected, individually or in the

aggregate, to result in a Material Adverse Change. Neither the Company nor any of its subsidiaries (inclusive of Visirna) (x) is in violation of, or in default under, any of the Permits (except for such violations or defaults that could not be expected, individually or in the aggregate, to result in a Material Adverse Change) or (y) has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any such certificate, authorization or permit, which, if the subject of an unfavorable decision, ruling or finding, could be expected, individually or in the aggregate, to result in a Material Adverse Change.

(z) Title to Properties. The Company and its subsidiaries have good and marketable title to all of the real and personal property and other assets reflected as owned in the financial statements referred to in Section 1(n) above (or elsewhere in the Registration Statement, the Time of Sale Prospectus or the Prospectus), in each case free and clear of any security interests, mortgages, liens, encumbrances, equities, adverse claims and other defects, except such as do not materially and adversely affect the value of such property and do not materially interfere with the use made or proposed to be made of such property by the Company or any of its subsidiaries. The real property, improvements, equipment and personal property held under lease by the Company or any of its subsidiaries are held under valid and enforceable leases, with such exceptions as are not material and do not materially interfere with the use made or proposed to be made of such real property, improvements, equipment or personal property by the Company or such subsidiary.

(aa) Tax Law Compliance. The Company and its subsidiaries have filed all necessary U.S. federal, state and local and foreign tax returns that are required by law to be filed through the date of this Agreement or have properly requested extensions thereof (except where the failure to file would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Change) and have paid all taxes required to be paid by any of them, except as may be being contested in good faith and by appropriate proceedings and for which adequate reserves have been maintained in accordance with GAAP, or except for cases where the failure to file or pay could not be expected, individually or in the aggregate, to result in a Material Adverse Change.

(bb) Insurance. Each of the Company and its subsidiaries is insured by recognized, financially sound and reputable institutions with policies in such amounts and with such deductibles and covering such risks as, in the reasonable judgment of the Company, are generally deemed adequate and customary for their businesses including, but not limited to, policies covering real and personal property owned or leased by the Company and its subsidiaries against theft, damage, destruction, acts of vandalism and earthquakes and policies covering the Company and its subsidiaries for product liability claims and clinical trial liability claims. The Company has no reason to believe that it or any of its subsidiaries will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that could not be expected to result in a Material Adverse Change. Neither the Company nor any of its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied.

(cc) Compliance with Environmental Laws. Except as could not be expected, individually or in the aggregate, to result in a Material Adverse Change: (i) neither the Company nor any of its subsidiaries is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products (collectively, “**Hazardous Materials**”) or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, “**Environmental Laws**”); (ii) the Company and its subsidiaries have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their

requirements; (iii) there are no pending or threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or any of its subsidiaries; and (iv) there are no events or circumstances that might reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental body or agency, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(dd) Periodic Review of Costs of Environmental Compliance. In the ordinary course of its business, the Company conducts a periodic review of the effect of Environmental Laws on the business, operations and properties of the Company and its subsidiaries, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties). No facts or circumstances have come to the Company's attention that could result in costs or liabilities that could be expected, individually or in the aggregate, to result in a Material Adverse Change.

(ee) ERISA Compliance. The Company and its subsidiaries and any "employee benefit plan" (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, "ERISA")) established or maintained by the Company, its subsidiaries or their "ERISA Affiliates" (as defined below) are in compliance in all material respects with ERISA. "ERISA Affiliate" means, with respect to the Company or any of its subsidiaries, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the "Code") of which the Company or such subsidiary is a member. No "reportable event" (as defined under ERISA) has occurred or is reasonably expected to occur with respect to any "employee benefit plan" established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates. No "employee benefit plan" established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates, if such "employee benefit plan" were terminated, would have any "amount of unfunded benefit liabilities" (as defined under ERISA). Neither the Company, its subsidiaries nor any of their ERISA Affiliates has incurred or reasonably expects to incur any liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "employee benefit plan" or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each employee benefit plan established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification.

(ff) Company Not an "Investment Company." The Company is not, and will not be, either after receipt of payment for the Offered Securities and the Shares and Pre-Funded Warrants in the Concurrent Offering, or after the application of the proceeds therefrom as described under "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus or the Prospectus, or after giving effect to the transactions contemplated by the Capped Call Confirmations, required to register as an "investment company" under the Investment Company Act of 1940, as amended (the "Investment Company Act").

(gg) Compliance with Margin Rules. None of the issuance, sale and delivery of the Offered Securities or the Maximum Number of Underlying Securities nor the application of the proceeds thereof by the Company as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus (including, without limitation, the entry into or exercise of the Company's rights and performance of its obligations under the Capped Call Confirmations) 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.

(hh) No Price Stabilization or Manipulation; Compliance with Regulation M. Neither the Company nor any of its subsidiaries has taken, directly or indirectly, any action designed to or that might reasonably be expected to cause or result in stabilization or manipulation of the price of the Common Stock or of any “reference security” (as defined in Rule 100 of Regulation M under the Exchange Act (“**Regulation M**”)) with respect to the Common Stock, whether to facilitate the sale or resale of the Offered Securities or otherwise, and has taken no action which would directly or indirectly violate Regulation M.

(ii) Related-Party Transactions. There are no business relationships or related-party transactions involving the Company or any of its subsidiaries or any other person required to be described in the Registration Statement, the Time of Sale Prospectus or the Prospectus that have not been described as required.

(jj) FINRA Matters. All of the information provided to the Underwriters or to counsel for the Underwriters by the Company, its counsel, 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 the offering of the Offered Securities is true, complete, correct and compliant with FINRA’s rules and any letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rules is true, complete and correct.

(kk) Parties to Lock-Up Agreements. The Company has furnished to the Underwriters a letter agreement in the form attached hereto as Exhibit A (the “**Lock-up Agreement**”) from each of the persons listed on Exhibit B. Such Exhibit B lists under an appropriate caption the directors and executive officers of the Company. If any additional persons shall become directors or executive officers of the Company prior to the end of the Lock-up Period (as hereinafter defined), the Company shall cause each such person, prior to or contemporaneously with their appointment or election as a director or executive officer of the Company, to execute and deliver to the Representatives a Lock-up Agreement.

(ll) Statistical and Market-Related Data. All statistical, demographic and market-related data included in the Registration Statement, the Time of Sale Prospectus or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate. To the extent required, the Company has obtained the written consent to the use of such data from such sources.

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

(nn) No Unlawful Contributions or Other Payments. Neither the Company nor any of its subsidiaries nor, to the best of the Company’s knowledge, any employee or agent of the Company or any of its subsidiaries nor, to the best of the Company’s knowledge, Visirma or any employee or agent of Visirma or any of its subsidiaries, has made any contribution or other payment to any official of, or candidate for, any federal, state or foreign office in violation of any law or of the character required to be disclosed in the Registration Statement, the Time of Sale Prospectus or the Prospectus.

(oo) Anti Corruption and Anti Bribery Laws. Neither the Company nor any of its subsidiaries nor to the knowledge of the Company, any director, officer, employee, agent, affiliate or other person acting on behalf of the Company or any of its subsidiaries, nor to the knowledge of the Company, Visirma or any director, officer, employee, agent, affiliate or other person acting on behalf of Visirma or any of Visirma’s subsidiaries, has, in the course of its actions for, or on behalf of, the Company or any of its subsidiaries or Visirma or any of its subsidiaries (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (ii) made or taken any act in furtherance of an offer, promise, or authorization of any direct or indirect unlawful payment or benefit to

any foreign or domestic government official or employee, including of any government-owned or controlled entity or public international organization, or any political party, party official, or candidate for political office; (iii) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended (the “**FCPA**”), the UK Bribery Act 2010, or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, authorized, requested, or taken an act in furtherance of any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment or benefit. The Company and its subsidiaries and, to the knowledge of the Company, the Company’s affiliates and, to the knowledge of the Company, Visirna and its affiliates, have conducted their respective businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(pp) Money Laundering Laws. The operations of the Company and its subsidiaries and, to the knowledge of the Company, the operations of Visirna and its subsidiaries, are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar applicable 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 any of its subsidiaries or, to the knowledge of the Company, involving Visirna and any of its subsidiaries, with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(qq) Compliance with Sanctions Laws. Neither the Company nor any of its subsidiaries, nor, to the knowledge of the Company, any director, officer, employee, agent, affiliate or other person acting on behalf of the Company or any of its subsidiaries, nor, to the knowledge of the Company, Visirna or any director, officer, employee, agent, affiliate or other person acting on behalf of Visirna or any of its subsidiaries, is currently the subject or the target of any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury (“**OFAC**”) or the U.S. Department of State, the United Nations Security Council, the European Union, His Majesty’s Treasury of the United Kingdom, or other relevant sanctions authority (collectively, “**Sanctions**”); nor is the Company or any of its subsidiaries, nor to the knowledge of the Company, Visirna or any of its subsidiaries, located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, the Crimea region of Ukraine, the non-government controlled areas of the Kherson and Zaporizhzhia regions of Ukraine, the so-called Donetsk People’s Republic and the so-called Luhansk People’s Republic or any other region of Ukraine identified pursuant to Executive Order 14065, Cuba, Iran, North Korea, and Syria (collectively, the “**Sanctioned Countries**”); and the Company will not directly or indirectly use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, or any joint venture partner or other person or entity, for the purpose of financing the activities of or business with any person, or in any country or territory, that at the time of such financing, is the subject or the target of Sanctions or in any other manner that will result in a violation by any person (including any person participating in the transaction whether as underwriter, advisor, investor or otherwise) of applicable Sanctions. Since April 24, 2019, the Company and its subsidiaries (including for purposes of this sentence, Visirna) have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(rr) Brokers. Except pursuant to this Agreement (and the underwriting agreement pursuant to the Concurrent Offering), there is no broker, finder or other party that is entitled to receive from the Company any brokerage or finder’s fee or other fee or commission as a result of any transactions contemplated by the Transaction Documents.

(ss) Forward-Looking Statements. Each financial or operational projection or other “forward-looking statement” (as defined by Section 27A of the Securities Act or Section 21E of the Exchange Act) contained in the Registration Statement, the Time of Sale Prospectus or the Prospectus (i) was so included by the Company in good faith and with reasonable basis after due consideration by the Company of the underlying assumptions, estimates and other applicable facts and circumstances and (ii) is accompanied by meaningful cautionary statements identifying those factors that could cause actual results to differ materially from those in such forward-looking statement. No such statement was made with the knowledge of an executive officer or director of the Company that is false or misleading.

(tt) No Outstanding Loans or Other Extensions of Credit. The Company does not have any outstanding extension of credit, in the form of a personal loan, to or for any director or executive officer (or equivalent thereof) of the Company except for such extensions of credit as are expressly permitted by Section 13(k) of the Exchange Act.

(uu) Cybersecurity. The Company and its subsidiaries’ information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, “**IT Systems**”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted, and to the Company’s knowledge, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants (collectively, “**IT Threats**”). The Company and its subsidiaries 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, continuous operation, redundancy and security of all IT Systems and data, including “Personal Data,” used in connection with their businesses and to identify IT Threats. “**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, bank information, or customer or account number; (ii) any information which would qualify as “personally identifying information” under the Federal Trade Commission Act, as amended; (iii) “personal data” as defined by the European Union General Data Protection Regulation (“**GDPR**”) (EU 2016/679); (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. To the Company’s knowledge, there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and its subsidiaries are and have been in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(vv) Compliance with Data Privacy Laws. The Company and its subsidiaries are, and at all prior times were, in material compliance with all applicable data privacy and security laws and regulations, including without limitation HIPAA and the GDPR (collectively, the “**Privacy Laws**”). The Company and its subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (the “**Policies**”). The Company and its subsidiaries have at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been inaccurate or in violation of any applicable laws and

regulatory rules or requirements in any material respect. Neither the Company nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

(ww) Clinical Data and Regulatory Compliance. The preclinical tests and clinical trials, and other studies (collectively, “studies”) that are described in, or the results of which are referred to in, the Registration Statement, the Time of Sale Prospectus or the Prospectus were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with standard medical and scientific research procedures; each description of the results of such studies is accurate and complete in all material respects and fairly presents the data derived from such studies, and the Company and its subsidiaries have no knowledge of any other studies the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus; the Company and its subsidiaries have made all such filings and obtained all such approvals as may be required by the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other U.S. or foreign government or drug or medical device regulatory agency, or health care facility Institutional Review Board (collectively, the “Regulatory Agencies”); neither the Company nor any of its subsidiaries has received any notice of, or correspondence from, any Regulatory Agency requiring the termination, suspension or modification of any clinical trials that are described or referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus, where such terminations, suspensions or modifications could be expected, individually or in the aggregate, to be material to the Company and its subsidiaries and the Company and its subsidiaries have each operated and currently are in compliance in all material respects with all applicable rules, regulations and policies of the Regulatory Agencies.

(xx) Compliance with Health Care Laws.

(i) The Company and its subsidiaries are, and at all times have been, in material compliance with all Health Care Laws. For purposes of this Agreement, “Health Care Laws” means: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.), the Public Health Service Act (42 U.S.C. Section 201 et seq.), and the regulations promulgated thereunder; (ii) all applicable federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal false statements law (42 U.S.C. Section 1320a-7b(a)), 18 U.S.C. Sections 286 and 287, the health care fraud criminal provisions under the HIPAA, the Stark Law (42 U.S.C. Section 1395nn), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusion law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C. Section 1320-7h), and applicable laws governing government funded or sponsored healthcare programs, including the collection and reporting requirements, and the processing of any applicable rebate, chargeback or adjustment, under applicable rules and regulations relating to the Medicaid Drug Rebate Program (42 U.S.C. § 1396r-8) and any state supplemental rebate program, Medicare average sales price reporting (42 U.S.C. § 1395w-3a), the Public Health Service Act (42 U.S.C. § 256b), the VA Federal Supply Schedule (38 U.S.C. § 8126) or under any state pharmaceutical assistance program or U.S. Department of Veterans Affairs agreement, and any successor government programs; (iii) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.); (iv) the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010; (v) licensure, quality, safety and accreditation requirements under applicable federal, state, local or foreign laws or regulatory bodies; and (vi) all other local, state, federal, national,

supranational and foreign laws, relating to the regulation of the Company or its subsidiaries, and (vii) the directives and regulations promulgated pursuant to such statutes and any state or non-U.S. counterpart thereof to which the Company or its subsidiaries are subject. Neither the Company nor any of its subsidiaries has received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any Health Care Laws nor, to the Company's knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. The Company and its subsidiaries have filed, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all material respects (or were corrected or supplemented by a subsequent submission). Neither the Company nor any of its subsidiaries is a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company, any of its subsidiaries, nor any of their respective employees, officers, directors, or to the knowledge of the Company, agents 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.

(ii) The manufacture of the Company's or its subsidiaries' products by or, to the knowledge of the Company, on behalf of the Company or its subsidiaries, is being and has been, conducted in compliance in all material respects with all applicable Health Care Laws, including, without limitation, the FDA's current good manufacturing practice regulations codified at 21 C.F.R. Parts 210 and 211, and, to the extent applicable, the respective counterparts thereof promulgated by governmental authorities in countries outside the United States. There have been no material recalls, field notifications, field corrections, market withdrawals or replacements, warnings, "dear doctor" letters, investigator notices, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of the Company's or its subsidiaries' products (collectively, "**Safety Notices**"); and (ii) to the Company's knowledge, there are no facts that would be reasonably likely to result in (x) a material Safety Notice with respect to the Company's or its subsidiaries' products, (y) a material and adverse change in labeling of any of the Company's or its subsidiaries' products, or (z) a termination or suspension of marketing of any of the Company's or its subsidiaries' products.

(yy) No Contract Terminations. Except as otherwise disclosed in the Registration Statement or the Prospectus, neither the Company nor any of its subsidiaries has sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in any preliminary prospectus, the Prospectus or any free writing prospectus, or referred to or described in, or filed as an exhibit to, the Registration Statement, or any document incorporated by reference therein, and no such termination or non-renewal has been threatened by the Company or any of its subsidiaries or, to the Company's knowledge, any other party to any such contract or agreement, which threat of termination or non-renewal has not been rescinded as of the date hereof.

(zz) Dividend Restrictions. No subsidiary of the Company is prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to such subsidiary's equity securities or from repaying to the Company or any other subsidiary of the Company any amounts that may from time to time become due under any loans or advances to such subsidiary from the Company or from transferring any property or assets to the Company or to any other subsidiary.

(aaa) Outbound Investment Security Program. Neither the Company nor its subsidiaries (i) are a “person of a country of concern” and (ii) have engaged in any “covered activity,” as these terms are defined in 31 C.F.R. Part 850, as implemented or revised from time to time. The Company and its subsidiaries have no intention of becoming a “person of a country of concern” that engages in any “covered activity.” Neither the Company nor its subsidiaries have any joint ventures that engage in or intend to engage in any “covered activity” or of becoming a “person of a country of concern.”

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

Any certificate signed by any officer of the Company or any of its subsidiaries and delivered to the Underwriters or to counsel for the Underwriters in connection with the offering, or the purchase and sale, of the Offered Securities shall be deemed a representation and warranty by the Company to the Underwriters as to the matters covered thereby.

The Company has a reasonable basis for making each of the representations set forth in this Section 1. The Company acknowledges that the Underwriters and, for purposes of the opinions to be delivered pursuant to Section 6 hereof, counsel to the Company and counsel to the Underwriters, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

Section 2. Purchase, Sale and Delivery of the Offered Securities.

(a) The Firm Securities. Upon the terms herein set forth, the Company agrees to issue and sell to the several Underwriters an aggregate principal amount of \$625,000,000 Firm Securities. On the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Underwriters agree, severally and not jointly, to purchase from the Company the aggregate principal amount of Firm Securities set forth opposite their names on Schedule A at a price equal to 97.4% of the principal amount thereof (the “**Purchase Price**”) plus accrued interest, if any, from January 12, 2026 to the First Closing Date.

(b) The First Closing Date. Delivery of the Firm Securities to be purchased by the Underwriters and payment therefor shall be made at the offices of Latham & Watkins LLP (or such other place as may be agreed to by the Company and the Representatives) at 10:00 a.m. New York City time, on January 12, 2026, or such other time and date not later than 1:30 p.m. New York City time, on January 27, 2026 as the Representatives shall designate by notice to the Company (the time and date of such closing are called the “**First Closing Date**”). The Company hereby acknowledges that circumstances under which the Representatives may provide notice to postpone the First Closing Date as originally scheduled include, but are not limited to, any determination by the Company or the Representatives to recirculate to the public copies of an amended or supplemented Prospectus or a delay as contemplated by the provisions of Section 11.

(c) The Optional Securities; Option Closing Date. In addition, on the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Company hereby grants an option to the several Underwriters to purchase, severally and not jointly, up to an additional \$75,000,000 principal amount of Optional Securities from the Company solely to cover over-allotments at the Purchase Price plus accrued interest, if any, from January 12, 2026 to the Option Closing Date. The option granted hereunder may be exercised at any time and from time to time in whole or in part upon notice by the Representatives to the Company, which notice may be given at any time within 30 days from the date of this Agreement. Such notice shall set forth (i) the aggregate principal

amount of Optional Securities plus accrued interest as to which the Underwriters are exercising the option and (ii) the time, date and place at which the Optional Securities will be delivered (which time and date may be simultaneous with, but not earlier than, the First Closing Date; and in the event that such time and date are simultaneous with the First Closing Date, the term “First Closing Date” shall refer to the time and date of delivery of the Firm Securities and such Optional Securities). Any such time and date of delivery, if subsequent to the First Closing Date, is called an “Option Closing Date,” and shall be determined by the Representatives and shall not be earlier than one day or later than five full business days after delivery of such notice of exercise. If any Optional Securities are to be purchased, each Underwriter agrees, severally and not jointly, to purchase the principal amount of Optional Securities (subject to such adjustments to eliminate Securities in denominations other than \$1,000 as the Representatives in their sole discretion shall make) that bears the same proportion to the total principal amount of Optional Securities to be purchased as the principal amount of Firm Securities set forth on Schedule A opposite the name of such Underwriter bears to the total principal amount of Firm Securities. The Representatives may cancel the option at any time prior to its expiration by giving written notice of such cancellation to the Company.

(d) Public Offering of the Offered Securities. The Representatives hereby advise the Company that the Underwriters intend to offer for sale to the public, initially on the terms set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus, their respective portions of the Offered Securities as soon after the execution and delivery of this Agreement as the Representatives, in their sole judgment, have determined is advisable and practicable.

(e) Payment for the Offered Securities. Payment for the Offered Securities shall be made at the First Closing Date (and, if applicable, at each Option Closing Date) by wire transfer of immediately available funds to the order of the Company. It is understood that the Representatives have been authorized, for their own account and the accounts of the several Underwriters, to accept delivery of and receipt for, and make payment of the purchase price for, the Firm Securities and any Optional Securities the Underwriters have agreed to purchase. Each of J.P. Morgan and Jefferies individually and not as the Representatives of the Underwriters, may (but shall not be obligated to) make payment for any Offered Securities to be purchased by any Underwriter whose funds shall not have been received by the Representatives by the First Closing Date or the applicable Option Closing Date, as the case may be, for the account of such Underwriter, but any such payment shall not relieve such Underwriter from any of its obligations under this Agreement.

(f) Delivery of the Offered Securities. The Company shall deliver, or cause to be delivered to the nominee of The Depository Trust Company (“DTC”) Representatives for the accounts of the several Underwriters one or more global notes representing the Offered Securities (collectively, the “Global Note”), at the First Closing Date (and, if applicable, at each Option Closing Date), against release of a wire transfer of immediately available funds for the amount of the purchase price therefor, with any transfer taxes or other similar taxes payable in connection with the sale of such Offered Securities to the Underwriters duly paid by the Company. Time shall be of the essence, and delivery at the time and place specified in this Agreement is a further condition to the obligations of the Underwriters. The Global Note will be made available for inspection by the Representatives at the office of J.P. Morgan set forth above not later than 1:00 p.m. New York City time, on the business day prior to the First Closing Date or any Option Closing Date, as the case may be.

Section 3. Additional Covenants of the Company. The Company further covenants and agrees with the Underwriters as follows:

(a) Commission Filing Fees. The Company agrees to pay the required Commission filing fees relating to the Offered Securities within the time required by Rule 456(b)(1) under the Securities Act without regard to the proviso therein and otherwise in accordance with the Rules 456(b) and 457(r) under the Securities Act.

(b) Delivery of Registration Statement, Time of Sale Prospectus and Prospectus. The Company shall furnish to you in New York City, without charge, prior to 10:00 a.m. New York City time on the business day next succeeding the date of this Agreement and during the period when a prospectus relating to the Offered Securities is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Securities, as many copies of the Time of Sale Prospectus, the Prospectus and any supplements and amendments thereto or to the Registration Statement as you may reasonably request.

(c) Review of Proposed Amendments and Supplements. During the period when a prospectus relating to the Offered Securities is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), the Company (i) will furnish to the Representatives for review, a reasonable period of time prior to the proposed time of filing of any proposed amendment or supplement to the Registration Statement, a copy of each such amendment or supplement and (ii) will not amend or supplement the Registration Statement (including any amendment or supplement through incorporation of any report filed under the Exchange Act) without the Representatives' prior written consent. Prior to amending or supplementing any preliminary prospectus, the Time of Sale Prospectus or the Prospectus (including any amendment or supplement through incorporation of any report filed under the Exchange Act), the Company shall furnish to the Representatives for review, a reasonable amount of time prior to the time of filing or use of the proposed amendment or supplement, a copy of each such proposed amendment or supplement. The Company shall not file or use any such proposed amendment or supplement without the Representatives' prior written consent. The Company shall file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(d) Free Writing Prospectuses. The Company shall furnish to the Representatives for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed free writing prospectus or any amendment or supplement thereto prepared by or on behalf of, used by, or referred to by the Company, and the Company shall not file, use or refer to any proposed free writing prospectus or any amendment or supplement thereto without the Representatives' prior written consent, which shall not be unreasonably withheld, conditioned or delayed. The Company shall furnish to each Underwriter, without charge, as many copies of any free writing prospectus prepared by or on behalf of, used by or referred to by the Company as such Underwriter may reasonably request. If at any time when a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Securities (but in any event if at any time through and including the First Closing Date) there occurred or occurs an event or development as a result of which any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, the Company shall promptly amend or supplement such free writing prospectus to eliminate or correct such conflict so that the statements in such free writing prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, as the case may be; *provided, however*, that prior to amending or supplementing any such free writing prospectus, the Company shall furnish to the Representatives for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented free writing prospectus, and the Company shall not file, use or refer to any such amended or supplemented free writing prospectus without the Representatives' prior written consent, which shall not be unreasonably withheld, conditioned or delayed.

(e) Filing of Underwriters Free Writing Prospectuses. The Company shall 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) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that such Underwriter otherwise would not have been required to file thereunder.

(f) Amendments and Supplements to Time of Sale Prospectus. If the Time of Sale Prospectus is being used to solicit offers to buy the Offered Securities at a time when the Prospectus is not yet available to prospective purchasers, and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus so that the Time of Sale Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable law, the Company shall (subject to Section 3(c) and Section 3(d) hereof) promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the information contained in the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable law.

(g) Certain Notifications and Required Actions. After the date of this Agreement, the Company shall promptly advise the Representatives in writing of: (i) the receipt of any comments of, or requests for additional or supplemental information from, the Commission; (ii) the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus; (iii) the time and date that any post-effective amendment to the Registration Statement becomes effective; and (iv) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus or the Prospectus or of any order preventing or suspending the use of any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Common Stock from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its best efforts to obtain the lifting of such order as soon as reasonably practicable. Additionally, the Company agrees that it shall comply with all applicable provisions of Rule 424(b), Rule 433 and Rule 430B under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b) or Rule 433 were received in a timely manner by the Commission. If, after the date of this Agreement and during any time when a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), the Company receives notice pursuant to Rule 401(g)(2) under the Securities Act from the Commission or otherwise ceases to be eligible to use the automatic shelf registration form, the Company shall promptly advise the Representatives in writing of such notice or ineligibility and will (i) promptly file a new registration statement or post-effective amendment on the proper form relating to the Offered Securities, (ii) use its best efforts to cause such registration statement or post-effective amendment to be declared effective by the Commission as soon as practicable and (iii) promptly notify the Representatives in writing of such effectiveness.

(h) Amendments and Supplements to the Prospectus and Other Securities Act Matters. If any event shall occur or condition exist, as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading, or if in the opinion of the Representatives or counsel for the Underwriters, it is otherwise necessary to amend or supplement the Prospectus to comply with applicable law, the Company agrees (subject to Section 3(c) and Section 3(d)) hereof to promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law. Neither the Representatives' consent to, nor delivery of, any such amendment or supplement shall constitute a waiver of any of the Company's obligations under Section 3(c) or Section 3(d).

(i) Blue Sky Compliance. The Company shall cooperate with the Representatives and counsel for the Underwriters to qualify or register the Offered Securities for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws (or other foreign laws) of those jurisdictions designated by the Representatives, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Offered Securities. The Company shall not be required to (i) qualify as a foreign corporation, (ii) take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified, or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject. The Company will advise the Representatives promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Offered Securities for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its best efforts to obtain the withdrawal thereof as soon as reasonably practicable.

(j) Use of Proceeds. The Company shall apply the net proceeds from the sale of the Offered Securities sold by it in the manner described under the caption "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(k) Transfer Agent. The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Common Stock, including the Underlying Securities.

(l) Earnings Statement. The Company will make generally available to its security holders and to the Representatives as soon as reasonably practicable an earnings statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company commencing after the date of this Agreement that will satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder; *provided, however*, that the requirements of this Section 3(l) shall be satisfied to the extent that such earnings statement is available on EDGAR.

(m) Continued Compliance with Securities Laws. The Company will comply with the Securities Act and the Exchange Act so as to permit the completion of the distribution of the Offered Securities as contemplated by this Agreement, the Registration Statement, the Time of Sale Prospectus and the Prospectus. Without limiting the generality of the foregoing, the Company will, during the period when a prospectus relating to the Offered Securities is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), file on a timely basis with the Commission and the Nasdaq all reports and documents required to be filed under the Exchange Act.

(n) **Listing.** The Company will use its best efforts to list, subject to notice of issuance, the Underlying Securities on the Nasdaq.

(o) **Company to Provide Copy of the Prospectus in Form That May be Downloaded from the Internet.** If requested by the Representatives, the Company shall cause to be prepared and delivered, at its expense, within one business day from the effective date of this Agreement, to the Representatives an “**electronic Prospectus**” to be used by the Underwriters in connection with the offering and sale of the Offered Securities. As used herein, the term “**electronic Prospectus**” means a form of the Prospectus, and any amendment or supplement thereto, that meets each of the following conditions: (i) it shall be encoded in an electronic format, satisfactory to the Representatives, that may be transmitted electronically by the Representatives and the other Underwriters to offerees and purchasers of the Offered Securities; (ii) it shall disclose the same information as the paper Prospectus, except to the extent that graphic and image material cannot be disseminated electronically, in which case such graphic and image material shall be replaced in the electronic Prospectus with a fair and accurate narrative description or tabular representation of such material, as appropriate; and (iii) it shall be in or convertible into a paper format or an electronic format, satisfactory to J.P. Morgan, that will allow investors to store and have continuously ready access to the Prospectus at any future time, without charge to investors (other than any fee charged for subscription to the Internet as a whole and for on-line time). The Company hereby confirms that it has included or will include in the Prospectus filed pursuant to EDGAR or otherwise with the Commission and in the Registration Statement at the time it was declared effective an undertaking that, upon receipt of a request by an investor or his or her representative, the Company shall transmit or cause to be transmitted promptly, without charge, a paper copy of the Prospectus.

(p) **Agreement Not to Offer or Sell Additional Common Stock.** During the period commencing on and including the date hereof and continuing through and including the 45th day following the date of the Prospectus (such period, as extended as described below, being referred to herein as the “**Lock-up Period**”), the Company will not, without the prior written consent of the Representatives (which consent may be withheld in its sole discretion), directly or indirectly: (i) sell, offer to sell, contract to sell or lend any Common Stock or Related Securities (as defined below); (ii) effect any short sale, or establish or increase any “put equivalent position” (as defined in Rule 16a-1(h) under the Exchange Act) or liquidate or decrease any “call equivalent position” (as defined in Rule 16a-1(b) under the Exchange Act) of any Common Stock or Related Securities; (iii) pledge, hypothecate or grant any security interest in any Common Stock or Related Securities; (iv) in any other way transfer or dispose of any Common Stock or Related Securities; (v) enter into any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of any Common Stock or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise; (vi) announce the offering of any Common Stock or Related Securities; (vii) submit or file any registration statement under the Securities Act in respect of any Common Stock or Related Securities (other than as contemplated by the Transaction Documents); (viii) effect a reverse stock split, recapitalization, share consolidation, reclassification or similar transaction affecting the outstanding Common Stock; or (ix) publicly announce the intention to do any of the foregoing; *provided, however*, that the Company may (A) effect the transactions contemplated hereby (including the Shares and the Pre-Funded Warrants to be sold in the Concurrent Offering and the issuance, in accordance with the Indenture, of any Underlying Securities upon conversion of the Offered Securities), (B) file one or more registration statements on Form S-8 or a successor form thereto to register Common Stock issuable pursuant to the terms of a stock option, stock bonus or other stock plan or arrangement described in the Registration Statement, the Time of Sale Prospectus and the Prospectus or pursuant to the grant of an inducement grant award, as permitted by Nasdaq Stock Market Rule 5635, (C) issue Common Stock or options to purchase Common Stock, or other compensatory equity awards, or issue Common Stock upon the exercise of options

or settlement of restricted stock units (“RSUs”), pursuant to any stock option, stock bonus or other stock plan or arrangement described in the Registration Statement, the Time of Sale Prospectus and the Prospectus or pursuant to the grant of an inducement grant award, as permitted by Nasdaq Stock Market Rule 5635, and (D) enter into the Capped Call Confirmations in connection with the offering of the Offered Securities and perform the Company’s obligations thereunder. Notwithstanding anything to the contrary contained in this paragraph, the Company shall be permitted to keep in effect that certain Amended and Restated Open Market Sale AgreementSM (the “**Sale Agreement**”) between the Company and Jefferies, dated as of December 10, 2025, provided no sales shall be made under the Sale Agreement for the first 30 calendar days after the date of this Agreement. For purposes of the foregoing, “**Related Securities**” shall mean any options or warrants or other rights to acquire Common Stock or any securities exchangeable or exercisable for or convertible into Common Stock, or to acquire other securities or rights ultimately exchangeable or exercisable for, or convertible into, Common Stock.

(q) Future Reports. During the period of five years hereafter, the Company will furnish to the Representatives, c/o J.P. Morgan Securities LLC, 270 Park Avenue, New York, New York 10017, Facsimile: (212) 622-8358, Attention: Equity Syndicate Desk and c/o Jefferies LLC, 520 Madison Avenue, New York, New York 10022, Attention: General Counsel: (i) as soon as practicable after the end of each fiscal year, copies of the Annual Report of the Company containing the balance sheet of the Company as of the close of such fiscal year and statements of income, stockholders’ equity and cash flows for the year then ended and the opinion thereon of the Company’s independent public or certified public accountants; (ii) as soon as practicable after the filing thereof, copies of each proxy statement, Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other report filed by the Company with the Commission, FINRA or any securities exchange; and (iii) as soon as available, copies of any report or communication of the Company furnished or made available generally to holders of its capital stock; *provided, however,* that the requirements of this Section 3(q) shall be satisfied to the extent that such reports, statement, communications, financial statements or other documents are available on EDGAR.

(r) Investment Limitation. The Company shall not invest or otherwise use the proceeds received by the Company from its sale of the Offered Securities in such a manner as would require the Company or any of its subsidiaries to register as an investment company under the Investment Company Act.

(s) No Stabilization or Manipulation; Compliance with Regulation M. The Company will not take, and will ensure that no affiliate of the Company will take, directly or indirectly, any action designed to or that might cause or result in stabilization or manipulation of the price of the Common Stock or any reference security with respect to the Common Stock, whether to facilitate the sale or resale of the Offered Securities or otherwise, and the Company will, and shall cause each of its affiliates to, comply with all applicable provisions of Regulation M.

(t) Enforce Lock-Up Agreements. During the Lock-up Period, the Company will enforce all agreements between the Company and any of its security holders that restrict or prohibit, expressly or in operation, the offer, sale or transfer of Common Stock or Related Securities or any of the other actions restricted or prohibited under the terms of the form of Lock-up Agreement. In addition, the Company will direct the transfer agent to place stop transfer restrictions upon any such securities of the Company that are bound by such “lock-up” agreements for the duration of the periods contemplated in such agreements, including, without limitation, “lock-up” agreements entered into by the Company’s officers and directors pursuant to Section 6(i) hereof.

SM “Open Market Sale Agreement” is a service mark of Jefferies LLC

(u) Company to Provide Interim Financial Statements. Prior to the First Closing Date and each applicable Option Closing Date, the Company will furnish the Underwriters, as soon as they have been prepared by or are available to the Company, a copy of any unaudited interim financial statements of the Company for any period subsequent to the period covered by the most recent financial statements appearing in the Registration Statement and the Prospectus, *provided, however*, that the requirements of this Section 3(u) shall be satisfied to the extent that such unaudited financial statements are available on EDGAR.

(v) Announcement Regarding Lock-ups. The Company agrees to announce the Underwriters' intention to release any director or "officer" (within the meaning of Rule 16a-1(f) under the Exchange Act) of the Company from any of the restrictions imposed by any Lock-Up Agreement, by issuing, through a major news service, a press release in form and substance satisfactory to the Representatives or, if consented to by the Representatives, in a registration statement that is publicly filed in connection with a secondary offering of the Company's shares promptly following the Company's receipt of any notification from J.P. Morgan in which such intention is indicated, but in any case not later than the close of the third business day prior to the date on which such release or waiver is to become effective; *provided, however*, that nothing shall prevent the Representatives, on behalf of the Underwriters from announcing the same through a major news service, irrespective of whether the Company has made the required announcement; and *provided, further*, that no such announcement shall be made of any release or waiver granted solely to permit a transfer of securities that is not for consideration and where the transferee has agreed in writing to be bound by the terms of a Lock-Up Agreement in the form set forth as Exhibit A hereto.

(w) Adequate Reserves. The Company will reserve and keep available at all times, free of preemptive rights, a number of Common Stock equal to the Maximum Number of Underlying Securities. The Company will use its reasonable best efforts to effect and maintain the listing of a number of Common Stock issuable upon conversion of the Offered Securities equal to the Maximum Number of Underlying Securities on the Nasdaq.

(x) Clearance and Settlement Through DTC. The Company will assist the Underwriters in arranging for the Offered Securities to be eligible for clearance and settlement through DTC.

(y) No Adjustment of Conversion Rate. No event has occurred that would, if the Offered Securities were outstanding, require an adjustment to the Conversion Rate (as defined in the Indenture) for the Offered Securities pursuant to the terms of the Indenture. During the period beginning from the date hereof and continuing until the latest Option Closing Date, the Company will not do or authorize any act or thing that would result in an adjustment of the Conversion Rate (as defined in the Indenture).

(z) Final Term Sheet. The Company will prepare a final term sheet relating to the offering of the Offered Securities and the Concurrent Offering in a form approved by the Representatives (as set forth in Schedule D hereto) and will file such term sheet pursuant to and within the time required by Rule 433(d) under the Securities Act.

The Representatives, on behalf of the several Underwriters, may, in their sole discretion, waive in writing the performance by the Company of any one or more of the foregoing covenants or extend the time for their performance.

Section 4. Payment of Expenses. The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Offered Securities (including all printing and engraving costs), (ii) all fees and expenses of the registrar and transfer agent of the Underlying Securities, (iii) all necessary issue, transfer, stamp and other similar taxes in connection with the issuance and sale of the Offered Securities to the Underwriters, (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors, (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Time of Sale Prospectus, the Prospectus, each free writing prospectus prepared by or on behalf of, used by, or referred to by the Company, and each preliminary prospectus and all amendments and supplements thereto, and the Transaction Documents, (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Underwriters in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Offered Securities for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada, and, if requested by the Representatives, preparing and printing a "Blue Sky Survey" or memorandum and a "Canadian wrapper," and any supplements thereto, advising the Underwriters of such qualifications, registrations and exemptions, (vii) the costs, fees and expenses incurred by the Underwriters in connection with determining their compliance with the rules and regulations of FINRA related to the Underwriters' participation in the offering and distribution of the Offered Securities, including any related filing fees and the legal fees of, and disbursements by, counsel to the Underwriters, (viii) 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 Offered 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 representatives, employees and officers of the Company and any such consultants, and one half of the cost of any aircraft chartered in connection with the road show, *provided, however*, that the prior written approval of the Company was obtained prior to the chartering of any such aircraft, (ix) the fees and expenses associated with listing the number of Common Stock equal to the Maximum Number of Underlying Securities on the Nasdaq, (x) the fees and expenses of the Trustee and any paying agent (including related fees and expenses of any counsel to such parties), (xi) all expenses and application fees incurred in connection with the approval of the Offered Securities for book-entry transfer by DTC, and (xii) all other fees, costs and expenses of the nature referred to in Item 14 of Part II of the Registration Statement; *provided, however*, that the Company shall not be responsible for any fees or expenses related to clauses (vi) and (vii) in excess of \$30,000 in the aggregate; provided that the foregoing limitation shall not apply with respect to any FINRA filing fees pursuant to clause (vii). Except as provided in this Section 4 or in Section 7, Section 9 or Section 10 hereof, the Underwriters shall pay its own expenses, including the fees and disbursements of its counsel and any transfer taxes or other similar taxes payable in connection with the resale of any of the Offered Securities by the Underwriters.

Section 5. Covenant of the Underwriters. Each Underwriter severally and not jointly covenants with the Company not to take any action that would result in the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that otherwise would not, but for such actions, be required to be filed by the Company under Rule 433(d).

Section 6. Conditions of the Obligations of the Underwriters. The respective obligations of the several Underwriters hereunder to purchase and pay for the Offered Securities as provided herein on the First Closing Date and, with respect to the Optional Securities, each Option Closing Date, shall be subject to the accuracy of the representations and warranties on the part of the Company set forth in Section 1 hereof as of the date hereof and as of the First Closing Date as though then made and, with respect to the Optional Securities, as of each Option Closing Date as through then made, to the timely performance by the Company of its covenants and other obligations hereunder, and to each of the following additional conditions:

(a) Comfort Letter. On the date hereof, the Representatives shall have received from KPMG LLP, independent registered public accountants for the Company, a letter dated the date hereof addressed to the Underwriters, in form and substance satisfactory to the Representatives, containing statements and information of the type ordinarily included in accountant's "comfort letters" to underwriters, delivered according to Statement of Auditing Standards No. 72 (or any successor bulletin), with respect to the audited and unaudited financial statements and certain financial information contained in the Registration Statement, the Time of Sale Prospectus, and each free writing prospectus, if any.

(b) Compliance with Registration Requirements; No Stop Order; No Objection from FINRA. For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Securities purchased after the First Closing Date, each Option Closing Date:

(i) The Company shall have filed the Prospectus with the Commission (including the information previously omitted from the Registration Statement pursuant to Rule 430B under the Securities Act) in the manner and within the time period required by Rule 424(b) under the Securities Act;

(ii) No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment to the Registration Statement shall be in effect, and no proceedings for such purpose shall have been instituted or threatened by the Commission.

(iii) If a filing has been made with FINRA, then FINRA shall have raised no objection to the fairness and reasonableness of the underwriting terms and arrangements.

(c) No Material Adverse Change. For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Securities purchased after the First Closing Date, each Option Closing Date: in the judgment of the Representatives there shall not have occurred any Material Adverse Change.

(d) Opinion and Negative Assurance Letter of Counsel for the Company. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received the opinion (including an opinion with respect to regulatory law matters) and negative assurance letter of Gibson, Dunn & Crutcher LLP, counsel for the Company, dated as of such date, in form and substance reasonably satisfactory to the Representatives.

(e) Opinion of Intellectual Property Counsel. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received (i) the opinion of Honigman LLC, counsel for the Company with respect to certain intellectual property matters, and (ii) the opinion of the Company's internal intellectual property counsel with respect to certain intellectual property matters, in each case dated as of such date, in form and substance reasonably satisfactory to the Representatives.

(f) Opinion and Negative Assurance Letter of Counsel for the Underwriters. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received the opinion and negative assurance letter of Latham & Watkins LLP, counsel for the Underwriters in connection with the offer and sale of the Offered Securities, in form and substance satisfactory to the Underwriters, dated as of such date.

(g) Officers' Certificate. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received a certificate executed by the Chief Executive Officer or President of the Company and the Chief Financial Officer of the Company, dated as of such date, to the effect set forth in Section 6(b)(ii) and further to the effect that:

(i) for the period from and including the date of this Agreement through and including such date, there has not occurred any Material Adverse Change;

(ii) the representations, warranties and covenants of the Company set forth in Section 1 of this Agreement are true and correct with the same force and effect as though expressly made on and as of such date; and

(iii) the Company has complied with all the agreements hereunder and satisfied all the conditions on its part to be performed or satisfied hereunder at or prior to such date.

(h) Bring-down Comfort Letter. On each of the First Closing Date and each Option Closing Date, the Representatives shall have received from KPMG LLP, independent registered public accountants for the Company, a letter dated such date, in form and substance satisfactory to the Representatives, which letter shall: (i) reaffirm the statements made in the letter furnished by them pursuant to Section 6(a), except that the specified date referred to therein for the carrying out of procedures shall be no more than three business days prior to the First Closing Date or the applicable Option Closing Date, as the case may be; and (ii) cover certain financial information contained in the Prospectus.

(i) Lock-Up Agreements. On or prior to the date hereof, the Company shall have furnished to the Representatives an agreement in the form of Exhibit A hereto from each of the persons listed on Exhibit B hereto, and each such agreement shall be in full force and effect on each of the First Closing Date and each Option Closing Date.

(j) Rule 462(b) Registration Statement. In the event that a Rule 462(b) Registration Statement is filed in connection with the offering contemplated by this Agreement, such Rule 462(b) Registration Statement shall have been filed with the Commission on the date of this Agreement and shall have become effective automatically upon such filing.

(k) CFO Certificate. On the date of this Agreement and on the First Closing Date or the applicable Option Closing Date, as the case may be, the Company shall have furnished to the Representatives a certificate, dated the respective dates of delivery thereof and addressed to the Underwriters, of its Chief Financial Officer with respect to certain financial data contained in the Time of Sale Prospectus and the Prospectus.

(l) Additional Documents. On or before each of the First Closing Date and each Option Closing Date, the Representatives and counsel for the Underwriters shall have received such information, documents and opinions as they may reasonably request for the purposes of enabling them to pass upon the issuance and sale of the Offered Securities as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Offered Securities as contemplated herein and in connection with the other transactions contemplated by the Transaction Documents shall be reasonably satisfactory in form and substance to the Representatives and counsel for the Underwriters.

(m) Indenture. The Indenture will have been executed and delivered by each party thereto and an executed copy thereof will have been provided to the Representatives.

(n) Clearance and Settlement Through DTC. The Offered Securities shall be eligible for clearance and settlement through DTC.

If any condition specified in this Section 6 is not satisfied when and as required to be satisfied and is not waived by the Representatives, this Agreement may be terminated by the Representatives by notice from the Representatives to the Company at any time on or prior to the First Closing Date and, with respect to the Optional Securities, at any time on or prior to the applicable Option Closing Date, which termination shall be without liability on the part of any party to any other party, except that Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination.

Section 7. Reimbursement of Underwriters' Expenses. If this Agreement is terminated by the Representatives pursuant to Section 6 or Section 12, or if the sale to the Underwriters of the Offered Securities on the First Closing Date is not consummated because of any refusal, inability or failure on the part of the Company to perform any agreement herein or to comply with any provision hereof, the Company agrees to reimburse the Representatives and the other Underwriters (or such Underwriters as have terminated this Agreement with respect to themselves), severally, upon demand for all out-of-pocket expenses that shall have been reasonably incurred by the Representatives and the Underwriters in connection with the proposed purchase and the offering and sale of the Offered Securities, including, but not limited to, fees and disbursements of counsel, printing expenses, travel expenses, postage, facsimile and telephone charges.

Section 8. Effectiveness of this Agreement. This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

Section 9. Indemnification.

(a) Indemnification of the Underwriters. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors, officers, employees and agents, and each person, if any, who controls any Underwriter within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as incurred, to which such Underwriter or such affiliate, director, officer, employee, agent or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Offered Securities have been offered or sold or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of the Company), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading; (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act, any road show as defined in Rule 433(h) under the Securities Act (a "**road show**") or the Prospectus (or any amendment or supplement to the foregoing), or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading; or (iii) any act or failure to act or any alleged act or failure to act by any Underwriter in connection with, or relating in any manner to, the Offered Securities or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon any matter covered by clause (i) or (ii) above; and to reimburse each Underwriter and each such affiliate, director, officer, employee, agent and controlling person for any and all expenses (including the reasonable fees and disbursements of counsel) as such expenses are reasonably incurred by such Underwriter or such affiliate, director, officer, employee, agent or controlling person in connection with investigating, defending, settling, compromising or paying

any such loss, claim, damage, liability, expense or action; *provided, however*, that the foregoing indemnity agreement shall not apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company by the Representatives in writing expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any such free writing prospectus or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information consists of the information described in Section 9(b) below. The indemnity agreement set forth in this Section 9(a) shall be in addition to any liabilities that the Company may otherwise have.

(b) Indemnification of the Company and its Directors and Officers and Controlling Persons. The Underwriters agree, severally and not jointly, to indemnify and hold harmless the Company, each of its directors, each of its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, against any loss, claim, damage, liability or expense, as incurred, to which the Company, or any such director, officer or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Offered Securities have been offered or sold or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433 of the Securities Act or the Prospectus (or any such amendment or supplement) or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, such preliminary prospectus, the Time of Sale Prospectus, such free writing prospectus, road show or the Prospectus (or any such amendment or supplement), in reliance upon and in conformity with information relating to such Underwriter furnished to the Company by the Representatives in writing expressly for use therein; and to reimburse the Company, or any such director, officer or controlling person for any and all expenses (including the reasonable fees and disbursements of counsel) as such expenses are reasonably incurred by the Company, or any such director, officer or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action. The Company hereby acknowledges that the only information that the Representatives have furnished to the Company expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) of the Securities Act or the Prospectus (or any amendment or supplement to the foregoing) are the statements set forth in the fourteenth paragraph under the caption "Underwriting" in the Final Prospectus Supplement. The indemnity agreement set forth in this Section 9(b) shall be in addition to any liabilities that each Underwriter may otherwise have.

(c) Notifications and Other Indemnification Procedures. Promptly after receipt by an indemnified party under this Section 9 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 9, notify the indemnifying party in writing of the commencement thereof, but the omission so to notify the indemnifying party will not relieve the indemnifying party from any liability which it may have to any indemnified party to the extent the indemnifying party is not materially prejudiced as a proximate result of such failure and shall not in any event relieve the indemnifying party from any liability that it may have otherwise than on

account of this indemnity agreement. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; *provided, however*, that if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election so to assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 9 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel (together with local counsel), representing the indemnified parties who are parties to such action), which counsel (together with any local counsel) for the indemnified parties shall be selected by the Representatives (in the case of counsel for the indemnified parties referred to in Section 9(a) above) or by the Company (in the case of counsel for the indemnified parties referred to in Section 9(b) above), (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the fees and expenses of counsel shall be at the expense of the indemnifying party and shall be paid as they are incurred.

(d) Settlements. The indemnifying party under this Section 9 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 9(c) hereof, the indemnifying party shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise or consent includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit or proceeding and does not include an admission of fault or culpability or a failure to act by or on behalf of such indemnified party.

Section 10. Contribution. If the indemnification provided for in Section 9 is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any losses, claims, damages, liabilities or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any losses, claims, damages, liabilities or expenses referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other

hand, from the offering of the Offered Securities pursuant to this Agreement or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriters, on the other hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, 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 hand, in connection with the offering of the Offered Securities pursuant to this Agreement shall be deemed to be in the same respective proportions as the total gross proceeds from the offering of the Offered Securities pursuant to this Agreement (before deducting expenses) received by the Company, and the total underwriting discounts and commissions received by the Underwriters, in each case as set forth on the front cover page of the Prospectus, bear to the aggregate initial offering price of the Offered Securities as set forth on such cover. The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or 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 hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in Section 9(c), any reasonable and reasonably documented legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 9(c) with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 10; *provided, however*, that no additional notice shall be required with respect to any action for which notice has been given under Section 9(c) for purposes of indemnification.

The Company and each Underwriter agree that it would not be just and equitable if contribution pursuant to this Section 10 were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 10.

Notwithstanding the provisions of this Section 10, each Underwriter shall not be required to contribute any amount in excess of the underwriting discounts and commissions received by the Underwriters in connection with the Offered Securities underwritten by it and distributed to the purchasers. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 10 are several, and not joint, in proportion to their respective underwriting commitments as set forth opposite their respective names on Schedule A. For purposes of this Section 10, each affiliate, director, officer, employee and agent of the Underwriters and each person, if any, who controls the Underwriters within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as the Underwriters, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

Section 11. Default of One or More of the Several Underwriters. If, on the First Closing Date or any Option Closing Date any one or more of the several Underwriters shall fail or refuse to purchase Offered Securities that it or they have agreed to purchase hereunder on such date, and the aggregate principal amount of Offered Securities which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase does not exceed 10% of the aggregate principal amount of the Offered Securities to be purchased on such date, the Representatives may make arrangements satisfactory to the Company for the purchase of such Offered Securities by other persons, including any of the Underwriters, but if no such arrangements are made by such date, the other Underwriters shall be obligated, severally and not jointly, in

the proportions that the principal amount of Firm Securities set forth opposite their respective names on Schedule A bears to the aggregate principal amount of Firm Securities set forth opposite the names of all such non-defaulting Underwriters, or in such other proportions as may be specified by the Representatives with the consent of the non-defaulting Underwriters, to purchase the Offered Securities which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date. If, on the First Closing Date or any Option Closing Date any one or more of the Underwriters shall fail or refuse to purchase Offered Securities and the aggregate principal amount of Offered Securities with respect to which such default occurs exceeds 10% of the aggregate principal amount of Offered Securities to be purchased on such date, and arrangements satisfactory to the Representatives and the Company for the purchase of such Offered Securities are not made within 48 hours after such default, this Agreement shall terminate without liability of any party to any other party except that the provisions of Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination. In any such case either the Representatives or the Company shall have the right to postpone the First Closing Date or the applicable Option Closing Date, as the case may be, but in no event for longer than seven days in order that the required changes, if any, to the Registration Statement and the Prospectus or any other documents or arrangements may be effected.

As used in this Agreement, the term "Underwriter" shall be deemed to include any person substituted for a defaulting Underwriter under this Section 11. Any action taken under this Section 11 shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

Section 12. Termination of this Agreement. Prior to the purchase of the Firm Securities by the Underwriters on the First Closing Date, this Agreement may be terminated by the Representatives by notice given to the Company if at any time: (i) trading or quotation in any of the Company's securities shall have been suspended or limited by the Commission or by the Nasdaq, or trading in securities generally on either the Nasdaq or the New York Stock Exchange shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges; (ii) a general banking moratorium shall have been declared by any of federal, New York, California authorities; (iii) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States' or international political, financial or economic conditions, as in the judgment of the Representatives is material and adverse and makes it impracticable to market the Offered Securities in the manner and on the terms described in the Time of Sale Prospectus or the Prospectus or to enforce contracts for the sale of securities; (iv) in the judgment of the Representatives there shall have occurred any Material Adverse Change; or (v) the Company shall have sustained a loss by strike, fire, flood, earthquake, accident or other calamity of such character as in the judgment of the Representatives may interfere materially with the conduct of the business and operations of the Company regardless of whether or not such loss shall have been insured. Any termination pursuant to this Section 12 shall be without liability on the part of (a) the Company to the Underwriters, except that the Company shall be obligated to reimburse the expenses of the Underwriters pursuant to Section 4 or Section 7 hereof or (b) the Underwriters to the Company; *provided, however*, that the provisions of Section 9 and Section 10 shall at all times be effective and shall survive such termination.

Section 13. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Offered Securities pursuant to this Agreement, including the determination of the public offering price of the Offered Securities and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, and does not constitute a recommendation, investment advice, or solicitation of any action by the Underwriters, (b) in connection with the offering contemplated hereby and the process leading to such transaction, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, creditors or employees or any other party,

(c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) and the Underwriters have no obligation to the Company with respect to the offering contemplated hereby except the obligations expressly set forth in this Agreement, (d) the Underwriters and their affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, (e) the Underwriters have not provided any legal, accounting, regulatory, investment or tax advice with respect to the offering contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate, and (f) none of the activities of the Underwriters in connection with the transaction contemplated herein constitutes a recommendation, investment advice, or solicitation of any action by the Underwriters with respect to any entity or natural person.

Section 14. Representations and Indemnities to Survive Delivery. The respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers and of the several Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter or the Company or any of its or their partners, officers or directors or any controlling person, as the case may be, and, anything herein to the contrary notwithstanding, will survive delivery of and payment for the Offered Securities sold hereunder and any termination of this Agreement.

Section 15. Notices. All communications hereunder shall be in writing and shall be mailed, hand delivered or telecopied and confirmed to the parties hereto as follows:

If to the Representatives: J.P. Morgan Securities LLC
270 Park Avenue
New York, New York 10017
Facsimile: (212) 622-8358
Attention: Equity Syndicate Desk

Jefferies LLC
520 Madison Avenue
New York, New York 10022
Attention: General Counsel

with a copy to: Latham & Watkins LLP
12670 High Bluff Drive
San Diego, CA 92130
Facsimile: (858) 523-5450
Attention: Cheston J. Larson; Matthew T. Bush

If to the Company: Arrowhead Pharmaceuticals, Inc.
177 E. Colorado Blvd., Suite 700
Pasadena, CA 91105
Facsimile: (626) 304-3401
Attention: General Counsel

with a copy to: Gibson, Dunn & Crutcher LLP
One Embarcadero Center, Suite 2600
San Francisco, CA 94111
Facsimile: (415) 374-8430
Attention: Stewart L. McDowell; Ryan A. Murr; Branden Berns

Any party hereto may change the address for receipt of communications by giving written notice to the others.

Section 16. Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto, including any substitute Underwriters pursuant to Section 11 hereof and to the benefit of the affiliates, directors, officers, employees, agents and controlling persons referred to in Section 9 and Section 10, and in each case their respective successors, and no other person will have any right or obligation hereunder. The term “**successors**” shall not include any purchaser of the Offered Securities as such from any of the Underwriters merely by reason of such purchase.

Section 17. Partial Unenforceability. The invalidity or unenforceability of any section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph or provision hereof. If any section, paragraph 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.

Section 18. Waiver of Jury Trial. Each of the parties hereto hereby waives any right to trial by jury in any suit or proceeding arising out of or relating to this Agreement.

Section 19. 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.

For purposes of this Agreement, (A) “**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); (B) “**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); (C) “**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 (D) “**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.

Section 20. Governing Law Provisions. 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. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the “**Specified Courts**”), and each party irrevocably submits to the exclusive jurisdiction (except for

proceedings instituted in regard to the enforcement of a judgment of any such court, as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party's address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

Section 21. General Provisions. 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. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and may be delivered by facsimile transmission or by electronic delivery of a portable document format (PDF) file. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

Each of the parties hereto acknowledges that it is a sophisticated business person who was adequately represented by counsel during negotiations regarding the provisions hereof, including, without limitation, the indemnification provisions of Section 9 and the contribution provisions of Section 10, and is fully informed regarding said provisions. Each of the parties hereto further acknowledges that the provisions of Section 9 and Section 10 hereof fairly allocate the risks in light of the ability of the parties to investigate the Company, its affairs and its business in order to assure that adequate disclosure has been made in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, each free writing prospectus and the Prospectus (and any amendments and supplements to the foregoing), as contemplated by the Securities Act and the Exchange Act.

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms.

Very truly yours,

ARROWHEAD PHARMACEUTICALS, INC.

By: /s/ Christopher Anzalone

Name: Christopher Anzalone

Title: President and Chief Executive Officer

[Signature Page to Underwriting Agreement (Convert)]

The foregoing Underwriting Agreement is hereby confirmed and accepted by the Representatives in New York, New York as of the date first above written.

J.P. MORGAN SECURITIES LLC
JEFFERIES LLC

Acting as Representatives of the several Underwriters
named in the attached Schedule A

By: J.P. Morgan Securities LLC

By: /s/ Suraj Vasishtha
Name: Suraj Vasishtha
Title: Vice President

By: Jefferies LLC

By: /s/ Michael Brinkman
Name: Michael Brinkman
Title: Managing Director

[Signature Page to Underwriting Agreement (Convert)]

Schedule A

Underwriters	Principal Amount of Firm Securities to be Purchased
J.P. Morgan Securities LLC	\$ 227,765,000
Jefferies LLC	\$ 227,765,000
BofA Securities, Inc.	\$ 56,490,000
Piper Sandler & Co.	\$ 56,490,000
RBC Capital Markets, LLC	\$ 56,490,000
Total	<u>\$ 625,000,000</u>

SCA-1

Free Writing Prospectuses Included in the Time of Sale Prospectus

- Free Writing Prospectus, dated January 7, 2026, related to the final term sheet.
- Free Writing Prospectus, dated January 7, 2026, related to the Pre-Funded Warrants.

SCB-1

Pricing Information

1. Preliminary prospectus dated January 6, 2026
2. Principal Amount of Firm Securities offered: \$625,000,000
3. Underwriters' option to purchase Optional Securities: \$75,000,000

SCC-1

Pricing Term Sheet

[See attached.]

SCD-1

Form of Lock-up Agreement**Lock-up Agreement**

January __, 2026

J.P. MORGAN SECURITIES LLC
JEFFERIES LLC

As Representatives of the several underwriters named in the Underwriting Agreements

c/o J.P. Morgan Securities LLC
270 Park Avenue
New York, New York 10017c/o Jefferies LLC
520 Madison Avenue
New York, New York 10022RE: Arrowhead Pharmaceuticals, Inc. (the "**Company**")

Ladies & Gentlemen:

The undersigned is an owner of shares of common stock, par value \$0.001 per share, of the Company ("**Shares**") or of securities convertible into or exchangeable or exercisable for Shares. The Company proposes to conduct (i) a public offering (the "**Debt Offering**") of its convertible senior notes (the "**Notes**," and together with the Shares, the "**Securities**") pursuant to an underwriting agreement (the "**Debt Underwriting Agreement**") and/or (ii) a public offering of Shares (the "**Equity Offering**," and together with the Debt Offering, the "**Offerings**") pursuant to an underwriting agreement (the "**Equity Underwriting Agreement**," and together with the Debt Underwriting Agreement, the "**Underwriting Agreements**"), for both of which J.P. Morgan Securities LLC and Jefferies LLC will act as representatives (the "**Representatives**") of the several underwriters named therein (the "**Underwriters**"). The undersigned recognizes that the Offerings will benefit each of the Company and the undersigned. The undersigned acknowledges that the Underwriters are relying on the representations and agreements of the undersigned contained in this letter agreement in conducting the Offerings and, at a subsequent date, in entering into the Underwriting Agreements and other underwriting arrangements with the Company with respect to the Offerings. In the event that the Company and the Representatives determine to only commence the Debt Offering, then references herein to the term "Offerings" shall mean the "Debt Offering," "Securities" shall mean "Notes," and "Underwriting Agreements" shall mean "Debt Underwriting Agreement," while if such parties determine to only commence the Equity Offering, then references herein to the term "Offerings" shall mean "Equity Offering," "Securities" shall mean "Shares" and "Underwriting Agreements" shall mean "Equity Underwriting Agreement."

Annex A sets forth definitions for capitalized terms used in this letter agreement that are not defined in the body of this letter agreement. Those definitions are a part of this letter agreement. In consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby agrees that, during the Lock-up Period, the undersigned will not (and will cause any Family Member not to), without the prior written consent of the Representatives, which may withhold their consent in their sole discretion:

- Sell or Offer to Sell any Shares or Related Securities currently or hereafter owned either of record or beneficially (as defined in Rule 13d-3 under the Exchange Act) by the undersigned or such Family Member,
- enter into any Swap,
- make any demand for, or exercise any right with respect to, the registration under the Securities Act of the offer and sale of any Shares or Related Securities, or cause to be filed a registration statement, prospectus or prospectus supplement (or an amendment or supplement thereto) with respect to any such registration, or
- publicly announce any intention to do any of the foregoing.

The foregoing will not apply to the registration of the offer and sale of the Securities, and the sale of the Securities to the Underwriters, in each case as contemplated by the Underwriting Agreements. The foregoing will not apply to: (A) the establishment of a new trading plan pursuant to Rule 10b5-1 under the Exchange Act providing for dispositions or sales of Shares, provided that (x) such plan does not permit dispositions or sales of Shares or any Related Securities during the Lock-up Period and (y) no public announcement or filing regarding such plan is required to be made, or is voluntarily made, during the Lock-up Period by or on behalf of the Company or the undersigned, except as required under applicable securities laws, in which case, any public announcement or filing under the Exchange Act made by any person regarding the establishment of such plan during the Lock-up Period shall include a statement that the undersigned is not permitted to transfer, sell or otherwise dispose of Shares under such plan during the Lock-up Period in contravention of this letter agreement; (B) sales or transfers of Shares made pursuant to a trading plan pursuant to Rule 10b5-1 under the Exchange Act that has been entered into by the undersigned prior to the date of this letter agreement, provided, that a copy of such plan has been made available to the Representatives and, provided further, that no public announcement or filing under the Exchange Act is voluntarily made by or on behalf of the undersigned or the Company and, provided further, that to the extent a public announcement or filing under the Exchange Act, if any, is required by or on behalf of the undersigned or the Company regarding any such sales or transfers, such announcement or filing shall include a statement to the effect that the sale or transfer was made pursuant to a trading plan pursuant to Rule 10b5-1; (C) the exercise of options to purchase Shares granted under any stock incentive plan or stock purchase plan of the Company, provided that the underlying Shares shall continue to be subject to the restrictions on transfer set forth in this letter agreement and provided further that any filing under Section 16(a) of the Exchange Act with regard to this clause (C) shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this clause (C), and no other public announcement shall be required or shall be made voluntarily in connection with such exercise; (D) the transfer of Shares (or any security convertible into Shares) to the Company or sold in connection with a vesting event of the Company's securities (including performance share units) or upon the exercise of options to purchase the Company's securities, on a "cashless" or "net exercise" basis or to cover tax withholding obligations of the undersigned in connection with such vesting or exercise provided that any filing under Section 16(a) of the Exchange Act with regard to this clause (D) shall clearly indicate in the footnotes thereto that the filing relates to the circumstances described in this clause (D), and no other public announcement shall be required or shall be made voluntarily in connection with such exercise; (E) the transfer or disposition of the undersigned's Shares (or any Related Securities) that occurs by operation of law, such as pursuant to a qualified domestic order or in connection with a divorce settlement provided that each transferee shall sign and deliver a lock-up agreement substantially in the form of this letter agreement; (F) the transfer of Shares (or any Related Securities) pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction made to all holders of the Shares involving a change of control of the Company provided that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the Shares owned by the undersigned shall remain subject to the restrictions contained in this letter agreement; or (G) by bona fide gift, provided that each donee executes and delivers to the Representatives an agreement in form and substance satisfactory to the Representatives stating that such transferee is receiving and holding such Shares

and/or Related Securities subject to the provisions of this letter agreement and agrees not to Sell or Offer to Sell such Shares and/or Related Securities, engage in any Swap or engage in any other activities restricted under this letter agreement except in accordance with this letter agreement (as if such transferee had been an original signatory hereto).

In addition, the foregoing restrictions shall not apply to the transfer of Shares or Related Securities by (i) will or intestate succession to a legal representative, heir, beneficiary or Family Member, (ii) to a trust whose beneficiaries consist exclusively of one or more of the undersigned and/or a Family Member, (iii) to any corporation, partnership, limited liability company, investment fund or other entity controlled or managed, or under common control or management by the undersigned or a Family Member, or (iv) as distributions to partners, members or stockholders of the undersigned; *provided, however*, that in any such case, it shall be a condition to such transfer that:

- each transferee executes and delivers to the Representatives an agreement in form and substance satisfactory to the Representatives stating that such transferee is receiving and holding such Shares and/or Related Securities subject to the provisions of this letter agreement and agrees not to Sell or Offer to Sell such Shares and/or Related Securities, engage in any Swap or engage in any other activities restricted under this letter agreement except in accordance with this letter agreement (as if such transferee had been an original signatory hereto), and
- prior to the expiration of the Lock-up Period, no public disclosure or filing under the Exchange Act by any party to the transfer (transferor or transferee) shall be required, or made voluntarily, reporting a reduction in beneficial ownership of Shares in connection with such transfer (other than a filing on a Form 5).

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of Shares or Related Securities held by the undersigned and the undersigned's Family Members, if any, except in compliance with the foregoing restrictions.

With respect to the Offerings only, from the date hereof until the expiration of the lock up period, the undersigned waives any registration rights relating to registration under the Securities Act, the offer and sale of any Shares and/or any Related Securities owned either of record or beneficially by the undersigned, including any rights to receive notice of the Offerings.

The undersigned confirms that the undersigned has not, and has no knowledge that any Family Member has, directly or indirectly, taken any action designed to or that might reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale of the Shares. The undersigned will not, and will cause any Family Member not to take, directly or indirectly, any such action.

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 Offerings and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate.

Whether or not the Offerings occur as currently contemplated or at all depends on market conditions and other factors. The Offerings will only be made pursuant to the Underwriting Agreements, the terms of which are subject to negotiation between the Company and the Representatives.

The undersigned hereby represents and warrants that the undersigned has full power, capacity and authority to enter into this letter agreement. This letter agreement is irrevocable and will be binding on the undersigned and the successors, heirs, personal representatives and assigns of the undersigned.

This letter agreement and related restrictions shall automatically terminate upon the earliest to occur, if any, of (a) the Representatives, on the one hand, or the Company, on the other hand, advising the other in writing that it has determined not to proceed with the Offerings, (b) the termination of the Underwriting Agreements before the sale of any Securities to the Underwriters or (c) January 31, 2026, if the Offerings have not closed by such date.

This letter agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

This letter 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 www.echosign.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.

[Signature page follows]

Signature

Printed Name of Person Signing

*(Indicate capacity of person signing if signing as custodian
or trustee, or on behalf of an entity)*

Annex A

Certain Defined Terms Used in Lock-up Agreement

For purposes of the letter agreement to which this Annex A is attached and of which it is made a part:

- “**Call Equivalent Position**” shall have the meaning set forth in Rule 16a-1(b) under the Exchange Act.
- “**Exchange Act**” shall mean the Securities Exchange Act of 1934, as amended.
- “**Family Member**” shall mean the spouse of the undersigned, an immediate family member of the undersigned or an immediate family member of the undersigned’s spouse, in each case living in the undersigned’s household or whose principal residence is the undersigned’s household (regardless of whether such spouse or family member may at the time be living elsewhere due to educational activities, health care treatment, military service, temporary internship or employment or otherwise). “**Immediate family member**” as used above shall have the meaning set forth in Rule 16a-1(e) under the Exchange Act.
- “**Lock-up Period**” shall mean the period beginning on the date hereof and continuing through the close of trading on the date that is 45 days after the date of the Prospectus (as defined in the Underwriting Agreements).
- “**Put Equivalent Position**” shall have the meaning set forth in Rule 16a-1(h) under the Exchange Act.
- “**Related Securities**” shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for or convertible into Shares.
- “**Securities Act**” shall mean the Securities Act of 1933, as amended.
- “**Sell or Offer to Sell**” shall mean to:
 - sell, offer to sell, contract to sell or lend,
 - effect any short sale or establish or increase a Put Equivalent Position or liquidate or decrease any Call Equivalent Position,
 - pledge, hypothecate or grant any security interest in, or
 - in any other way transfer or dispose of,in each case whether effected directly or indirectly.
- “**Swap**” shall mean any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of Shares or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise.

Capitalized terms not defined in this Annex A shall have the meanings given to them in the body of this lock-up agreement.

Directors and Officers
Signing Lock-up Agreement

Directors:

Mauro Ferrari
Douglass Ingram
Hongbo Lu
Adeoye Olukotun
Michael S. Perry
Victoria Vakiener
William Waddill

Officers:

Christopher Anzalone (also a Director)
Daniel Apel
Patrick O'Brien
Javier San Martin
James Hamilton
Tracie Oliver

PRE-FUNDED COMMON STOCK PURCHASE WARRANT
ARROWHEAD PHARMACEUTICALS, INC.

Warrant Shares: [•]

Issue Date: January 9, 2026

THIS PRE-FUNDED COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, [•] or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”), to subscribe for and purchase from Arrowhead Pharmaceuticals, Inc., a Delaware corporation (the “Company”), up to [•] shares (as subject to adjustment hereunder, the “Warrant Shares”) of common stock, par value \$0.001 per share (“Common Stock”). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 3(b).

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

- a) “Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.
- b) “Business 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 Pasadena, California are authorized or required by law or other governmental action to close.
- c) “Commission” means the United States Securities and Exchange Commission.
- d) “Common Stock Equivalents” means any securities of the Company or its subsidiaries 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.
- e) “Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.
- f) “Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.
- g) “Registration Statement” means the Company’s registration statement on Form S-3 (File No. 333-292061), which was filed and became effective on December 11, 2026.
- h) “Securities Act” means the Securities Act of 1933, as amended.

- i) “Trading Day” means a day on which the principal Trading Market is open for trading.
- j) “Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange (or any successors to any of the foregoing).
- k) “Transfer Agent” means Computershare Trust Company, and any successor transfer agent of the Company.

Section 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 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 Exchange Act as in effect on the 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 permissibly 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.

Section 3. Exercise.

- a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date by delivery to the Company of a duly executed PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto, and delivered in accordance with the notice requirements set forth in Section 6(g) (the “Notice of Exercise”). Notwithstanding the foregoing, with respect to any Notice of Exercise delivered on or prior to the Initial Exercise Date, the Company agrees to deliver the Warrant Shares subject to such Notice(s) of Exercise by 5:30 p.m. (New York time) on the Initial Exercise Date. Within the earlier of (i) one (1) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 3(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price (as defined below) for the Warrant Shares specified in the applicable Notice of Exercise by wire transfer or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 3(c) below is applicable and specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within five (5) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in

purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Trading Day of receipt of such notice. **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.**

b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-paid aggregate exercise price under any circumstance or for any reason whatsoever. The remaining unpaid exercise price per share of Common Stock under this Warrant shall be \$0.001, subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. This Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 3(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 3(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(88) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder as indicated on the Notice of Exercise, either (y) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 3(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 3(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the characteristics of the Warrants being exercised, and for purposes of Rule 144, the holding period of the Warrant Shares being issued may be tacked on to the holding period of this Warrant. The Company agrees not to take any position contrary to this Section 3(c), except to the extent required by change in applicable law, rule or regulation after the date hereof.

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined in good faith by the Board of Directors of the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by the Board of Directors of the Company and reasonably agreed to by the Holders of a majority in interest of the Warrants then outstanding.

d) Mechanics of Exercise.

- i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted to the Holder by crediting the account of the Holder’s or its designee’s balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system (“DWAC”) if the Company is then a participant in such system, or, at the request of the Holder, in electronic book entry form to the account of the Holder registered in the Company’s

share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the later of one (1) Trading Day after delivery of the aggregate Exercise Price to the Company and (ii) the number of Trading Days comprising the Standard Settlement Period subject to the delivery to the Company of the Notice of Exercise (such date, the “Warrant Share Delivery Date”). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by the Warrant Share Delivery Date. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, “Standard Settlement Period” means the standard settlement period, expressed in a number of Trading Days, on the Company’s primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise.

- ii. Delivery of New Warrants Upon Exercise. If this Warrant has been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant, as soon as practicable following the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.
- iii. Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 3(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date (other than a failure caused by incorrect or incomplete information provided by the Holder to the Company), and if after such date 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 two (2) Trading Days after the Holder’s request, (A) pay in cash to the Holder the amount, if any, by which (x) the Holder’s total purchase price (including commercially reasonable brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed (assuming such sale was executed on commercially reasonable terms at prevailing market prices and, if the sale was executed in multiple transactions, the volume weighted average price), and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company

timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice within two (2) Trading Days after the occurrence of a Buy-In indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

- iv. No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.
 - v. Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that, in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall, to the extent applicable, pay all Transfer Agent fees required for processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for electronic delivery of the Warrant Shares.
 - vi. Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.
- e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 3 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with (i) the Holder's Affiliates, (ii) any other Persons acting as a group together with the Holder or any of the Holder's Affiliates, and (iii) any other Persons whose beneficial ownership of the Common

Stock would or could be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (such Persons set forth in clause (i) through (iii) above, "Attribution Parties"), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Attribution Parties shall include the number of shares of Common Stock issuable upon 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 (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 3(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. The determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 3(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice from the Company or the Transfer Agent to the Holder setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one (1) Trading Day confirm in writing 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 or its Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company; provided, that the Beneficial Ownership Limitation may not be increased above 9.99%. Any decrease in the Beneficial Ownership Limitation will be effective immediately upon delivery of such notice to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 3(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

- f) No Set-off. To the extent permitted by law and subject to Section 3(d)(iii), 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 3(e)) 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 3(d)(iii), 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.

Section 4. Certain Adjustments.

- a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares of Common Stock, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 4(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.
- b) Subsequent Rights Offerings. In addition to (but without duplication of) any adjustments pursuant to Section 4(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then, in each such case, upon any exercise of this Warrant that occurs

after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights; provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation, provided, further, that such Purchase Rights need not be held in abeyance for the benefit of the Holder if the Holder was separately offered substantially equivalent Purchase Rights outside of the Warrant.

- c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Warrant, 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 Beneficial Ownership Limitation) 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 shares of Common Stock are to be determined for the participation in such Distribution; provided, however, that, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of 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 the earlier of (i) such time, if ever, as the delivery to such Holder of such portion would not result in the Holder exceeding the Beneficial Ownership Limitation and (ii) such time as the Holder has exercised this Warrant.

d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of more than 50% of the voting power of the capital stock of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization 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, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the voting power of the capital stock of the Company (not including any shares of capital stock of the Company held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) and in connection with such transaction the Common Stock is converted into or exchanged for other securities, cash or property (each a "Fundamental Transaction"), then, upon the consummation of such Fundamental Transaction, this Warrant shall automatically be converted into the right of the Holder to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 3(e) on the exercise of this Warrant) the securities, cash and other property of the successor or acquiring corporation (or ultimate parent thereof) or of the Company, if it is the surviving corporation, as applicable, (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 3(e) on the exercise of this Warrant). For purposes of this Section 4(d), the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of capital stock of the Company are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon the consummation of any such Fundamental Transaction. The Company shall not effect a Fundamental Transaction in which the Company is not the surviving corporation or the Alternate Consideration includes securities of another Person unless (i) the Alternate Consideration is solely cash and the definitive

agreement in respect thereof provides for the simultaneous “cashless exercise” of this Warrant pursuant to Section 3(c), or (ii) prior to or simultaneously with the consummation thereof, any successor to the Company or surviving entity (the “Successor Entity”) shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the “Company” shall refer instead to the Successor Entity) and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

- e) Calculations. All calculations under this Section 4 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 4, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.
- f) Notice to Holder.
- i. Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 4, the Company shall promptly deliver to the Holder by email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.
 - ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company (and all of its subsidiaries, taken as a whole) is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by email to the Holder at its last email address as it shall appear upon the Warrant Register (as defined below), at least 10 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property

deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. Holder agrees to maintain any information disclosed pursuant to this Section 4(f) in confidence until such information is publicly available, and shall comply with applicable law with respect to trading in the Company's securities following receipt any such information; provided, however, that to the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the U.S. Securities and Exchange Commission pursuant to a Current Report on Form 8-K.

Section 5. Transfer of Warrant.

- a) Transferability. Subject to compliance with any applicable securities laws, this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within five (5) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.
- b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 5(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.
- c) Warrant Register. The Company shall register this Warrant in the Warrant Register in the name of the record Holder hereof 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.

Section 6. Miscellaneous.

- a) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 3(d)(i), except as expressly set forth in Section 4.
- b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.
- c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business Day.
- d) Authorized Shares. The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights like represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

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 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 nonassessable 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.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

- e) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party 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, 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, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party 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 party at the address in effect for notices to it under this Warrant 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 other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.
- f) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

- g) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Exercise, shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service, addressed to the Company, at Arrowhead Pharmaceuticals, Inc., 117 E. Colorado Blvd., Suite 700, Pasadena, CA 91105, Attention: General Counsel, e-mail: General.Counsel@arrowheadpharma.com, or such other email address or address as the Company may specify for such purposes by notice to the Holders. Any and all notices or other communications or deliveries to be provided by the Company hereunder shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service addressed to each Holder at the e-mail address or address of such Holder appearing on the books of the Company. Any notice or other communication or deliveries hereunder shall be deemed effectively given upon the earlier of actual receipt, or (a) personal delivery to the party to be notified, (b) when sent, if sent by electronic mail during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next Business Day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) Business Day after deposit with a nationally recognized overnight courier, freight prepaid, specifying next Business Day delivery, with written verification of receipt.
- h) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.
- i) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant without the need to post a bond or make any undertaking. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.
- j) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.
- k) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company, on the one hand, and the Holder, on the other hand.

- l) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.
- m) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

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

ARROWHEAD PHARMACEUTICALS, INC.

By: _____
Name:
Title:

[Signature Page to Warrant]

NOTICE OF EXERCISE

TO: **ARROWHEAD PHARMACEUTICALS, INC.**

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 3(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 3(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity:

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name:

(Please Print)

Address:

Phone Number:

(Please Print)

Email Address:

Dated: _____, _____

Holder's Signature:

Holder's Address:

GIBSON DUNN

January 8, 2026

Arrowhead Pharmaceuticals, Inc.
177 E. Colorado Blvd., Suite 700
Pasadena, California 91105

Re: *Arrowhead Pharmaceuticals, Inc.*
Registration Statement on Form S-3 (File No. 333-292061)

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-3 (File No. 333-292061) (the "Registration Statement") of Arrowhead Pharmaceuticals, Inc., a Delaware corporation (the "Company"), filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), and the prospectus supplement thereto dated January 7, 2026 (the "Prospectus Supplement") in connection with the offering by the Company of (i) up to 2,015,505 shares (the "Shares") of common stock, par value \$0.001 per share (the "Common Stock"), and (ii) pre-funded warrants (the "Pre-Funded Warrants") to purchase an aggregate of 1,550,389 shares of Common Stock (the "Pre-Funded Warrant Shares"), pursuant to the Underwriting Agreement dated as of January 7, 2026 among the Company and the Underwriters named therein.

In arriving at the opinion expressed below, we have examined originals, or copies certified or otherwise identified to our satisfaction as being true and complete copies of the originals, of specimen Common Stock certificates, form of Pre-Funded Warrant and such other documents, corporate records, certificates of officers of the Company and of public officials and other instruments as we have deemed necessary or advisable to enable us to render the opinions set forth below. In our examination, we have assumed without independent investigation the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies.

Based upon the foregoing, and subject to the assumptions, exceptions, qualifications and limitations set forth herein, we are of the opinion that (i) the Shares, when issued against payment therefor as set forth in the Registration Statement, will be validly issued, fully paid and non-assessable, (ii) provided that the Pre-Funded Warrants have been duly executed and delivered by the Company and duly delivered to the purchaser thereof against payment therefor, then the Pre-Funded Warrants, when issued and sold as described in the Registration Statement, assuming a sufficient number of Pre-Funded Warrant Shares are at the time available for issuance, will be a valid and legally binding obligation of the Company, enforceable against the Company in accordance with their terms, except as enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting creditors' rights generally and by general equitable principles (regardless of whether such enforceability is considered in a proceeding at law or in equity) and implied covenants of good faith and fair dealing, and (iii) the Pre-Funded Warrant Shares, when issued upon a valid exercise of the Pre-Funded Warrants in accordance with their terms, will have been duly authorized and validly issued and will be fully paid and non-assessable.

Gibson, Dunn & Crutcher LLP

One Embarcadero Center Suite 2600 | San Francisco, CA 94111-3715 | T: 415.393.8200 | F: 415.393.8306 | gibsondunn.com

GIBSON DUNN

We consent to the filing of this opinion as an exhibit to the Registration Statement, and we further consent to the use of our name under the caption “Legal Matters” in the Registration Statement and the Prospectus Supplement. In giving these consents, we do not thereby admit that we are within 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,

/s/ Gibson, Dunn & Crutcher LLP

Gibson, Dunn & Crutcher LLP

One Embarcadero Center Suite 2600 | San Francisco, CA 94111-3715 | T: 415.393.8200 | F: 415.393.8306 | gibsondunn.com

**PRESS RELEASE****Jan. 7, 2026****Arrowhead Pharmaceuticals Prices Upsized Offerings of Convertible Senior Notes, Common Stock and Pre-Funded Warrants**

PASADENA, Calif., Jan. 7, 2026 — Arrowhead Pharmaceuticals, Inc. (NASDAQ: ARWR) today announced the pricing of its concurrent public offerings of (i) \$625,000,000 aggregate principal amount of 0.00% convertible senior notes due 2032 (the “notes”) and (ii) 3,100,776 shares of common stock, at a public offering price of \$64.50 per share (or, in lieu of shares of common stock to certain investors, pre-funded warrants, at a public offering price of \$64.499 per pre-funded warrant, for up to 1,550,387 shares of common stock). The offering size of the note offering was increased from the previously announced offering size of \$500,000,000 aggregate principal amount of notes. The issuance and sale of the notes are scheduled to settle on January 12, 2026, and the issuance and sale of the common stock and, if applicable, the pre-funded warrants are scheduled to settle on January 9, 2026, in each case subject to customary closing conditions. Arrowhead also granted the underwriters of the note offering a 30-day option to purchase up to an additional \$75,000,000 principal amount of notes solely to cover over-allotments and granted the underwriters of the common stock and pre-funded warrant offering a 30-day option to purchase up to an additional 465,116 shares of common stock. The completion of the note offering will not be contingent on the completion of the common stock and pre-funded warrant offering, and the completion of the common stock and pre-funded warrant offering will not be contingent on the completion of the note offering.

J.P. Morgan and Jefferies are acting as joint book-running managers for the note offering, and Jefferies and J.P. Morgan are acting as joint book-running managers for the common stock and pre-funded warrant offering. BofA Securities, Piper Sandler and RBC Capital Markets are acting as bookrunners for the offerings.

The notes will be senior, unsecured obligations of Arrowhead. The notes will not bear regular interest, and the principal amount of the notes will not accrete. The notes will mature on January 15, 2032, unless earlier repurchased, redeemed or converted. Before October 15, 2031, noteholders will have the right to convert their notes only upon the occurrence of certain events. From and after October 15, 2031, noteholders may convert their notes at any time at their election until the close of business on the second scheduled trading day immediately before the maturity date. Arrowhead will settle conversions by paying or delivering, as applicable, cash, shares of its common stock or a combination of cash and shares of its common stock, at Arrowhead's election. The initial conversion rate is 11.4844 shares of common stock per \$1,000 principal amount of notes, which represents an initial conversion price of approximately \$87.07 per share of common stock. The initial conversion price represents a premium of approximately 35.0% over the public offering price per share of common stock in the common stock offering. The conversion rate and conversion price will be subject to adjustment upon the occurrence of certain events.

The notes will be redeemable, in whole or in part (subject to certain limitations), for cash at Arrowhead's option at any time, and from time to time, on or after January 16, 2029 and on or before the 30th scheduled trading day immediately before the maturity date, but only if the last reported sale price per share of Arrowhead's common stock exceeds 130% of the conversion price for a specified period of time. The redemption price will be equal to the principal amount of the notes to be redeemed, plus accrued and unpaid special interest, if any, to, but excluding, the redemption date.

If a "fundamental change" (as defined in the indenture for the notes) occurs, then, subject to a limited exception, noteholders may require Arrowhead to repurchase their notes for cash. The repurchase price will be equal to the principal amount of the notes to be repurchased, plus accrued and unpaid special interest, if any, to, but excluding, the applicable repurchase date.

Arrowhead estimates that the net proceeds from the note offering will be approximately \$608.2 million (or approximately \$681.3 million if the underwriters of the note offering fully exercise their option to purchase additional notes), after deducting the underwriting discounts and commissions and estimated offering expenses. Arrowhead estimates that the net proceeds from the common stock offering will be approximately \$188.3 million (or approximately \$216.6 million if the underwriters of the common stock offering fully exercise their option to purchase additional shares of common stock), after deducting the underwriting discounts and commissions and estimated offering expenses. Arrowhead intends to use approximately \$42.8 million of the net proceeds from the note offering to fund the cost of entering into the capped call transactions described below. Arrowhead intends to use the remainder of the net proceeds from the note offering, together with

the net proceeds from the common stock offering, for general corporate purposes, including working capital, capital expenditures, research and development expenditures, clinical trial expenditures, commercialization activity expenditures and preparation for potential commercial launches of late stage products, including associated supply chain activities. A portion of the net proceeds may also be used to prepay the loans under Arrowhead's credit facility with Sixth Street Lending Partners. If the underwriters of the note offering exercise their option to purchase additional notes, then Arrowhead intends to use a portion of the additional net proceeds from the note offering to fund the cost of entering into additional capped call transactions as described below.

In connection with the pricing of the notes, Arrowhead entered into privately negotiated capped call transactions with one or more of the underwriters of the note offering or their affiliates or one or more other financial institutions (the "option counterparties"). The capped call transactions will cover, subject to anti-dilution adjustments substantially similar to those applicable to the notes, the number of shares of Arrowhead's common stock underlying the notes. If the underwriters of the note offering exercise their option to purchase additional notes, then Arrowhead expects to enter into additional capped call transactions with the option counterparties.

The cap price of the capped call transactions will initially be approximately \$119.33 per share, which represents a premium of approximately 85.0% over the public offering price per share of common stock in the common stock offering, and is subject to certain adjustments under the terms of the capped call transactions.

The capped call transactions are expected generally to reduce the potential dilution to Arrowhead's common stock upon any conversion of the notes and/or offset any potential cash payments Arrowhead is required to make in excess of the principal amount of converted notes, as the case may be, upon conversion of the notes. If, however, the market price per share of Arrowhead's common stock, as measured under the terms of the capped call transactions, exceeds the cap price of the capped call transactions, there would nevertheless be dilution and/or there would not be an offset of such potential cash payments, in each case, to the extent that such market price exceeds the cap price of the capped call transactions.

In connection with establishing their initial hedges of the capped call transactions, the option counterparties or their respective affiliates expect to enter into various derivative transactions with respect to Arrowhead's common stock concurrently with or shortly after the pricing of the notes. This activity could increase (or reduce the size of any decrease in) the market price of Arrowhead's common stock or the notes at that time.

In addition, the option counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various derivatives with respect to Arrowhead's common stock and/or purchasing or selling Arrowhead's common stock or other securities of Arrowhead in secondary market transactions following the pricing of the notes and prior to the maturity of the notes (and (x) are likely to do so during any observation period related to a conversion of notes after October 15, 2031 or following any repurchase of the notes by Arrowhead in connection with any fundamental change or redemption and (y) may do so following any repurchase of notes by Arrowhead other than in connection with any fundamental change or redemption). This activity could also cause or avoid an increase or decrease in the market price of Arrowhead's common stock or the notes, which could affect the ability to convert the notes, and, to the extent the activity occurs during any observation period related to a conversion of notes, it could affect the number of shares and value of the consideration that noteholders will receive upon conversion of the notes.

Subject to certain restrictions, each pre-funded warrant will be exercisable at the option of the holder of such pre-funded warrant for the purchase of one share of Arrowhead's common stock at an exercise price of \$0.001 per share, subject to customary anti-dilution adjustments.

The offerings are being made pursuant to an effective shelf registration statement on file with the Securities and Exchange Commission (the "SEC"). Each offering will be made only by means of a prospectus supplement relating to that offering and an accompanying prospectus. An electronic copy of the preliminary prospectus supplement (and, when available, the final prospectus supplement) for each offering, together with the accompanying prospectus, is or will be available on the SEC's website at www.sec.gov. Alternatively, copies of these documents can be obtained by contacting: J.P. Morgan Securities LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, or by email at prospectus-eq_fi@jpmchase.com and postsalemanualrequests@broadridge.com; or Jefferies LLC, 520 Madison Avenue, New York, NY 10022, Attention: Prospectus Department, or by telephone at (877) 547-6340 or by email to Prospectus_Department@Jefferies.com.

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

About Arrowhead Pharmaceuticals

Arrowhead Pharmaceuticals develops medicines that treat intractable diseases by silencing the genes that cause them. Using a broad portfolio of RNA chemistries and efficient modes of delivery, Arrowhead therapies trigger the RNA interference mechanism to induce rapid, deep, and durable knockdown of target genes. RNA interference, or RNAi, is a mechanism present in living cells that inhibits the expression of a specific gene, thereby affecting the production of a specific protein. Arrowhead's RNAi-based therapeutics leverage this natural pathway of gene silencing.

Safe Harbor Statement under the Private Securities Litigation Reform Act:

This news release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include statements regarding the completion of the offerings, the expected amount and intended use of the net proceeds and the effects of entering into the capped call transactions described above. These statements are based upon Arrowhead's current expectations regarding future events, speak only as of the date hereof and are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those implied by the forward-looking statements. Among those risks and uncertainties are market conditions, the satisfaction of the closing conditions related to the offerings, risks described under the caption "Risk Factors" in the preliminary prospectus supplement (and, when available, the final prospectus supplement) for each offering and risks relating to Arrowhead's business, including those described in periodic reports that Arrowhead files from time to time with the SEC. Arrowhead may not consummate the offerings described in this press release and, if the offerings are consummated, cannot provide any assurances regarding its ability to effectively apply the net proceeds as described above. Readers are cautioned not to place undue reliance on these forward-looking statements. Arrowhead assumes no obligation to update or revise forward-looking statements to reflect new events or circumstances.

Contacts:

Arrowhead Pharmaceuticals, Inc.
Vince Anzalone, CFA
626-304-3400
ir@arrowheadpharma.com

Investors:

LifeSci Advisors, LLC
Brian Ritchie
212-915-2578
britchie@lifesciadvisors.com

Media:
LifeSci Communications, LLC
Kendy Guarinoni, Ph.D.
724-910-9389
kguarinoni@lifescicomms.com

Source: Arrowhead Pharmaceuticals, Inc.

###

- 6 -