

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, DC 20549

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(D) OF THE
SECURITIES EXCHANGE ACT OF 1934
Date of Report (Date of earliest event reported): April 29, 2022

ABEONA THERAPEUTICS INC.
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-15771
(Commission
File Number)

83-0221517
(IRS Employer
Identification No.)

1330 Avenue of the Americas, 33rd Floor,
New York, NY 10019
(Address, including zip code, of Principal Executive Offices)

(646) 813-4701
Registrant's telephone number, including area code

N/A
(Former name or former address, if changed since last report)

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

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

Securities registered pursuant to Section 12(b) of the Act: None.

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, \$0.01 par value	ABEO	Nasdaq Capital Markets

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

Emerging growth company

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

Item 1.01 Entry into a Material Definitive Agreement

On April 29, 2022, Abeona Therapeutics Inc., a Delaware corporation (the "Company"), entered into a Securities Purchase Agreement (the "Purchase Agreement") with certain institutional investors (the "Investors"), pursuant to which the Company agreed to issue and sell, in a private placement (the "Offering"), 1,000,006 shares of the Company's Series A Convertible Redeemable Preferred Stock, par value \$0.01 per share (the "Series A Preferred Stock"), and 250,005 shares of the Company's Series B Convertible Redeemable Preferred Stock, par value \$0.01 per share (the "Series B Preferred Stock," and together with the Series A Preferred Stock, the "Preferred Stock"), at an offering price of \$19.00 per share, representing a 5% original issue discount ("OID") to the stated value of \$20.00 per share, for gross proceeds of approximately \$25.0 million in the aggregate for the Offering, before the deduction of discounts, fees and offering expenses. The shares of Preferred Stock will be convertible, at a conversion price of \$0.45 per share (subject in certain circumstances to adjustments), into shares of the Company's common stock, \$0.01 per share (the "Common Stock"), at the option of the holders and, in certain circumstances, by the Company. The Purchase Agreement contains customary representations, warranties and agreements by the Company and customary conditions to closing. The Offering closed on May 2, 2022.

The Company intends to call a special meeting of stockholders to consider an amendment (the "Amendment") to the Company's Restated Certificate of Incorporation (the "Charter"), to effect a reverse stock split of the outstanding shares of Common Stock by a ratio to be determined by the Board of Directors of the Company within a range to be specified in the proposal put to the stockholders for approval of the Amendment (the "Reverse Stock Split"). The Investors have agreed in the Purchase Agreement to not transfer, offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of the shares of the Preferred Stock until the Reverse Stock Split, to vote the shares of the Series A Preferred Stock purchased in the Offering in favor of such Amendment and to vote the shares of the Series B Preferred Stock purchased in the Offering in a manner that "mirrors" the proportions on which the shares of Common Stock (excluding any shares of Common Stock that are not voted) and Series A Preferred Stock are voted on the

Reverse Stock Split. The Reverse Stock Split requires the approval of the majority of the votes associated with our outstanding stock entitled to vote on the proposal. Because the Series B Preferred Stock will automatically and without further action of the purchaser be voted in a manner that “mirrors” the proportions on which the shares of Common Stock (excluding any shares of Common Stock that are not voted) and Series A Preferred Stock are voted on the Reverse Stock Split, abstentions by common stockholders will not have any effect on the votes cast by the holders of the Series B Preferred Stock.

Pursuant to the Purchase Agreement, the Company will file certificates of designation (the “Certificates of Designation”) with the Secretary of the State of Delaware designating the rights, preferences and limitations of the shares of Series A Preferred Stock and Series B Preferred Stock. The Certificate of Designation for the Series B Preferred Stock will provide, in particular, that the Series B Preferred Stock will have no voting rights other than the right to vote as a class on certain specified matters and the right to cast 15,000 votes per share of Series B Preferred Stock on the Reverse Stock Split proposal.

The holders of Preferred Stock will be entitled to dividends, on an as-if converted basis, equal to dividends actually paid, if any, on shares of Common Stock. The Preferred Stock is convertible, at the option of the holders and, in certain circumstances, by the Company, into shares of Common Stock at a conversion price of \$0.45 per share. The conversion price can be adjusted pursuant to the Certificates of Designation for stock dividends and stock splits, subsequent rights offering, pro rata distributions of dividends or the occurrence of a fundamental transaction (as defined in the applicable Certificate of Designation). The holders of the Series A and Series B preferred stock have the right to require the Company to redeem their shares of preferred stock for cash at 105% of the stated value of such shares commencing after the earlier of the receipt of stockholder approval of the Amendment and 60 days after the closing of the issuances of the Series A and Series B preferred stock and until 90 days after such closing. The Company has the option to redeem the Series A preferred stock for cash at 105% of the stated value commencing after the 90th day following the closing of the issuance of the Series A preferred stock, subject to the holders’ rights to convert the shares prior to such redemption.

The proceeds of the Offering will be held in an escrow account, along with the additional amount that would be necessary to fund the 105% redemption price until the expiration of the redemption period for the Preferred Stock, as applicable, subject to the earlier payment to redeeming holders. Upon expiration of the redemption period, any proceeds remaining in the escrow account will be disbursed to the Company.

In connection with the Offering, on May 2, 2022, the Company and the Investors entered into a Registration Rights Agreement (the “Registration Rights Agreement”), pursuant to which the Company is required to file a registration statement with the Securities and Exchange Commission to register for resale the shares that are issued upon the potential conversion of shares of Preferred Stock. The registration statement will be filed with the Securities and Exchange Commission on or before the later of 10 calendar days following the date of the stockholder meeting held to seek approval of the Amendment and the 70th calendar day following the date of the Registration Rights Agreement.

In connection with the Offering, the Company agreed to pay A.G.P./Alliance Global Partners (the “the Placement Agent”) an aggregate cash fee equal to \$1.0 million and to reimburse the Placement Agent for certain of its expenses in an amount not to exceed \$100,000, as well as nonaccountable out-of-pocket expenses not to exceed \$10,000.

Under the Purchase Agreement, for a period of 60 days from the date of the Purchase Agreement, the Company and its subsidiaries are prohibited from issuing or entering into any agreement to issue or announce the issuance or proposed issuance of any shares of common stock or common stock equivalents. Further, from the date of the Purchase Agreement until the earlier of (A) the date of which all shares of the Preferred Stock are redeemed in accordance with their terms and (B) the date that is 180 days following the Reverse Stock Split Date, the Company is prohibited from effecting or entering into an agreement to effect any issuance by the Company or any of its subsidiaries of common stock or common stock equivalents (or a combination of units thereof) involving a Variable Rate Transaction, as defined in the Purchase Agreement. Also, until the Reverse Stock Split Date, neither the Company nor any subsidiary may make any issuance whatsoever of common stock or common stock equivalents. The above limitations on issuances of stock under the Purchase Agreement do not apply to Exempt Issuances as defined in the Purchase Agreement.

The foregoing summaries of the Purchase Agreement, the Registration Rights Agreement, and Certificates of Designation do not purport to be complete and are subject to, and qualified in their entirety by, forms of such documents attached as Exhibits 10.1, 10.2, 3.1, and 3.2, respectively, to this Current Report on Form 8-K, which are incorporated herein by reference.

The representations, warranties and covenants contained in the Purchase Agreement were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to the agreements and are subject to limitations agreed upon by the contracting parties. Accordingly, the Purchase Agreement is incorporated herein by reference only to provide investors with information regarding the terms of the Purchase Agreement and not to provide investors with any other factual information regarding the Company or its business and should be read in conjunction with the disclosures in the Company’s periodic reports and other filings with the Securities and Exchange Commission.

Item 3.03. Material Modifications to Rights of Security Holders.

The disclosure required by this Item and included in Item 1.01 of this Current Report is incorporated herein by reference.

Item 5.03. Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year.

The disclosure required by this Item and included in Item 1.01 of this Current Report is incorporated herein by reference.

Item 8.01 Other Events

The Company issued a press release announcing the Offering on April 29, 2022. A copy of the press release is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit Number	Description
3.1	Form of Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Redeemable Preferred Stock
3.2	Form of Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Redeemable Preferred Stock
10.1	Form of Securities Purchase Agreement between Abeona Therapeutics Inc. and the investors thereto, dated April 29, 2022
10.2	Form of Registration Rights Agreement by and among Abeona Therapeutics Inc. and the investors named therein, dated April 29, 2022
99.1	Press Release of Abeona Therapeutics Inc. dated April 29, 2022, announcing the pricing of the Offering
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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.

Abeona Therapeutics Inc.
(Registrant)

Date: May 2, 2022

By: /s/ Brendan M. O'Malley

Name: Brendan M. O'Malley

Title: Senior Vice President, General Counsel

ABEONA THERAPEUTICS INC.

**CERTIFICATE OF DESIGNATION OF PREFERENCES,
RIGHTS AND LIMITATIONS
OF
SERIES A CONVERTIBLE REDEEMABLE PREFERRED STOCK**

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

The undersigned, Joseph Vazzano, does hereby certify that:

1. He is the Chief Financial Officer of Abeona Therapeutics Inc., a Delaware corporation (the “Corporation”).
2. The Corporation is authorized to issue 2,000,000 shares of preferred stock, none of which have been issued.
3. The following resolutions were duly adopted by the board of directors of the Corporation (the “Board of Directors”):

WHEREAS, the Restated Certificate of Incorporation of the Corporation (the “Certificate of Incorporation”), provides for a class of its authorized stock known as preferred stock, consisting of 2,000,000 shares, \$0.01 par value per share, issuable from time to time in one or more series;

WHEREAS, the Board of Directors is authorized by resolution to provide for the issuance of preferred stock in one or more series, and to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, privileges, preferences and relative participating, optional or other rights, if any, of the shares of each such series and the qualifications, limitations or restrictions thereof; and

WHEREAS, it is the desire of the Board of Directors, pursuant to its authority as described above, to fix the rights, preferences, restrictions and other matters relating to a series of the preferred stock, which shall consist of 1,000,006 shares of the preferred stock which the Corporation has the authority to issue.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors does hereby provide for the issuance of a series of preferred stock to be designated “Series A Convertible Redeemable Preferred Stock” and does hereby fix and determine the designation, powers, privileges, preferences and relative participating, optional or other rights, if any, of the shares of each such series and the qualifications, limitations or restrictions thereof as follows:

Section 1. Definitions. For the purposes hereof, the following terms shall have the following meanings:

“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 of the Securities Act.

“Alternate Consideration” shall have the meaning set forth in Section 7(d).

“Amendment” means the amendment to the Corporation’s Certificate of Incorporation to, after the date hereof, effect the Reverse Stock Split.

“Authorized Stockholder Approval” means approval of the Amendment by the holders of a majority in voting power of the then outstanding shares of capital stock of the Corporation entitled to vote on the matter.

“Beneficial Ownership Limitation” shall have the meaning set forth in Section 6(d).

“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 the State of New York are authorized or required by law or other governmental action to close.

“Buy-In” shall have the meaning set forth in Section 6(c)(iv).

“Change of Control Transaction” means the occurrence after the date hereof of any of (a) an acquisition by an individual or legal entity or “group” (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of the Corporation, by contract or otherwise) of in excess of 33% of the voting securities of the Corporation (other than by means of the issuance, sale, conversion or exercise of Series A Preferred Stock or Series B Preferred Stock), (b) the Corporation merges into or consolidates with any other Person, or any Person merges into or consolidates with the Corporation and, after giving effect to such transaction, the stockholders of the Corporation immediately prior to such transaction own less than 66% of the aggregate voting power of the Corporation or the successor entity of such transaction, (c) the Corporation (and all of its Subsidiaries, taken as a whole) sells or transfers all or substantially all of its assets to another Person and the stockholders of the Corporation immediately prior to such transaction own less than 66% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a one year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the Original Issue Date), or (e) the execution by the Corporation of an agreement to which the Corporation is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

“Closing” means the closing of the purchase and sale of the Series A Preferred Stock pursuant to Section 2.1 of the Purchase Agreement.

“Closing Date” means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto and all conditions precedent to (i) each Holder’s obligations to pay the Subscription Amount and (ii) the Corporation’s obligations to deliver the Series A Preferred Stock have been satisfied or waived.

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the Corporation’s common stock, \$0.01 par value per share, and stock of any other class of securities into which such securities may hereafter be reclassified, converted or changed.

“Common Stock Equivalents” means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time

Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants 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.

“Conversion Amount” means the Stated Value at issue.

“Conversion Date” shall have the meaning set forth in Section 6(a).

“Conversion Price” shall have the meaning set forth in Section 6(b).

“Conversion Shares” means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series A Preferred Stock in accordance with the terms hereof.

“Escrow Agreement” means the escrow agreement to be entered into concurrently with the Purchase Agreement, by and among the Corporation, Wilmington Trust, National Association, and the other party thereto.

“Equity Conditions” means, during the period in question, (a) the Corporation shall have paid all liquidated damages and other amounts owing to the applicable Holder in respect of the Series A Preferred Stock, (b)(i) there is an effective registration statement pursuant to which either (A) the Corporation may issue Conversion Shares or (B) the Holders are permitted to utilize the prospectus thereunder to resell all of the shares of Common Stock issuable pursuant to the Transaction Documents (and the Corporation believes, in good faith, that such effectiveness will continue uninterrupted for the foreseeable future), (ii) all of the Conversion Shares issuable pursuant to the Transaction Documents (and shares issuable in lieu of cash payments of dividends) may be resold pursuant to Rule 144 without volume or manner-of-sale restrictions or current public information requirements as determined by the counsel to the Corporation as set forth in a written opinion letter to such effect, addressed and reasonably acceptable to the Transfer Agent and the affected Holder, or (iii) all of the Conversion Shares may be issued to the Holder pursuant to Section 3(a)(9) of the Securities Act and immediately resold without restriction, (c) the Common Stock is trading on a Trading Market and all of the shares of Common Stock issuable upon conversion of the Series A Preferred Stock are listed or quoted for trading on such Trading Market (and the Corporation believes, in good faith, that trading of the Common Stock on a Trading Market will continue uninterrupted for the foreseeable future), (d) there is a sufficient number of authorized, but unissued and otherwise unreserved, shares of Common Stock for the issuance of all of the shares then issuable pursuant to the Transaction Documents, (e) Authorized Stockholder Approval shall have been received and be effective, (f) the issuance of the shares in question to the applicable Holder would not violate the limitations set forth in Section 6(d) herein, (g) the shares of Common Stock have traded on the applicable Trading Market during a consecutive ten (10) day period at an average market price per share greater than \$2.00 (as adjusted for stock splits) and the average daily trading volume during such period is equal to or greater than \$2,000,000, (h) there has been no public announcement of a pending or proposed Fundamental Transaction or Change of Control Transaction that has not been consummated, (i) the applicable Holder is not in possession of any information provided by the Corporation, any of its Subsidiaries, or any of their officers, directors, employees, agents or Affiliates, that constitutes, or may constitute, material non-public information and (j) the Corporation shall have duly honored all conversions scheduled to occur or occurring by virtue of one or more Notices of Conversion of the applicable Holder on or prior to the dates so requested or required, if any.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Forced Conversion Date” shall have the meaning set forth in Section 8(b).

“Forced Conversion Notice” shall have the meaning set forth in Section 8(b).

“Forced Conversion Notice Date” shall have the meaning set forth in Section 8(b).

“Fundamental Transaction” shall have the meaning set forth in Section 7(d).

“GAAP” means United States generally accepted accounting principles.

“Holder” shall have the meaning given such term in Section 2.

“Liquidation” shall have the meaning set forth in Section 5.

“Mandatory Conversion” shall have the meaning set forth in Section 8(a).

“Mandatory Conversion Date” shall have the meaning set forth in Section 8(a).

“Notice of Conversion” shall have the meaning set forth in Section 6(a).

“Original Issue Date” means the date of the first issuance of any shares of the Series A Preferred Stock regardless of the number of transfers of any particular shares of Series A Preferred Stock and regardless of the number of certificates which may be issued to evidence such Series A Preferred Stock.

“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.

“Purchase Agreement” means the Preferred Stock Purchase Agreement, dated as of April 29, 2022, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

“Reverse Stock Split” means the reverse stock split of the Corporation’s Common Stock that is effected by the Corporation’s filing of the Amendment with and acceptance by the Secretary of State of the State of Delaware.

“Reverse Stock Split Date” means the date on which the Amendment to effectuate the Reverse Stock Split is filed and accepted by the Secretary of State of the State of Delaware.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Series A Preferred Stock” shall have the meaning set forth in Section 2.

“Series B Preferred Stock Certificate of Designation” means the Certificate of Designation of Preferences, Rights and Limitations of the Series B Convertible Redeemable Preferred Stock of the Corporation, dated as of the date hereof.

“Share Delivery Date” shall have the meaning set forth in Section 6(c).

“Stated Value” shall have the meaning set forth in Section 2.

“Subscription Amount” shall mean, as to each Holder, the aggregate amount to be paid for the Series A Preferred Stock purchased pursuant to the Purchase Agreement as specified below such Holder’s name on the signature page of the Purchase Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsidiary” means any subsidiary of the Corporation as set forth on Schedule 3.1(a) of the Purchase Agreement and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

“Successor Entity” shall have the meaning set forth in Section 7(d).

“Trading Day” means a day on which the principal Trading Market is open for business.

“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).

“Transaction Documents” means this Certificate of Designation, the Series B Preferred Stock Certificate of Designation, the Purchase Agreement, the Registration Rights Agreement, the Escrow Agreement, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated pursuant to the Purchase Agreement, in each case as amended, modified or supplemented from time to time in accordance with its terms.

“Transfer Agent” means American Stock Transfer & Trust Company, and any successor transfer agent of the Corporation.

Section 2. Designation, Amount and Par Value. The series of preferred stock shall be designated as “Series A Convertible Redeemable Preferred Stock” (the “Series A Preferred Stock”) and the number of shares of such series shall be **1,000,000** (which shall not be subject to increase without the written consent of the holders of a majority of the then outstanding shares of the Series A Preferred Stock (each, a “Holder” and collectively, the “Holders”). Each share of Series A Preferred Stock shall have a par value of \$0.01 per share and a stated value equal to \$20.00 (the “Stated Value”).

Section 3. Dividends. Except for stock dividends or distributions for which adjustments are to be made pursuant to Section 7, Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Series A Preferred Stock equal (on an as-if-converted-to-Common-Stock basis, disregarding for such purpose any conversion limitations hereunder) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Series A Preferred Stock. The Corporation shall not pay any dividends on the Common Stock unless the Corporation simultaneously complies with this provision.

Section 4. Voting Rights.

a) For purposes of determining the presence of a quorum at any meeting of the stockholders of the Corporation at which the shares of Series A Preferred Stock are entitled to vote and the voting power of the shares of Series A Preferred Stock, each holder of outstanding shares of Series A Preferred Stock shall be entitled to a number of votes equal to the number of shares of Common Stock into which such shares of Series A Preferred Stock are then convertible, disregarding, for such purposes, any limitations on conversion set forth herein.

b) Except as otherwise required by the Delaware General Corporation Law or the Certificate of Incorporation (including this Certificate of Designation), each share of Series A Preferred Stock shall be entitled to vote on each matter submitted to a vote of the stockholders generally and shall vote together with the Common Stock and any other class or series of capital stock entitled to vote thereon as a single class and on an as converted to Common Stock basis. Notwithstanding the foregoing, in addition, as long as any shares of Series A Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Series A Preferred Stock, voting as a separate class, (a) alter or change the powers, preferences or rights of the Series A Preferred Stock so as to affect them adversely, (b) amend the Certificate of Incorporation or other charter documents in a manner adverse to the Holders, (c) increase the number of authorized shares of Series A Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing.

Section 5. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a “Liquidation”), prior and in preference to the Common Stock, the Holders shall be entitled to receive out of the assets available for distribution to stockholders an amount in cash equal to 105% of the Stated Value and no more. The preference set forth in this Section 5 with respect to distributions to the Series A Preferred Stock upon a Liquidation shall apply *mutatis mutandis* to any distributions to be made upon the consummation of a Fundamental Transaction or Change of Control Transaction. The Corporation shall mail written notice of any such Liquidation, Fundamental Transaction or Change of Control Transaction not less than 45 days prior to the payment date stated therein, to each Holder.

Section 6. Conversion.

a) Conversions at Option of Holder. Subject to Section 6(d), each share of Series A Preferred Stock shall be convertible, at any time and from time to time only after the Reverse Stock Split Date, at the option of the Holder thereof, into that number of shares of Common Stock determined by dividing the Stated Value of such share of Series A Preferred Stock by the Conversion Price. Holders shall effect conversions by delivering to the Corporation a conversion notice in the form attached hereto as Annex A (a “Notice of Conversion”). Each Notice of Conversion shall specify the number of shares of Series A Preferred Stock to be converted, the number of shares of Series A Preferred Stock owned prior to the conversion at issue, the number of shares of Series A Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers such Notice of Conversion to the Corporation (such date, the “Conversion Date”). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be as of the close of business on the Business Day that such Notice of Conversion is delivered to the Corporation, or if such day is not a Business day or if the Notice of Conversion is delivered after regular business hours, the next Business Day. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. From and after the Conversion Date, until presented for transfer or exchange, certificates that previously represented shares of Series A Preferred Stock shall represent, in lieu of the number of shares of Series A Preferred Stock previously represented by such certificate, the number of shares of Series A Preferred Stock, if any, previously represented by such certificate that were not converted pursuant to the Notice of Conversion, plus the number of shares of Conversion Shares into which the shares of Series A Preferred Stock previously represented by such certificate were converted. To effect conversions of shares of Series A Preferred Stock, a Holder shall not be required to surrender the certificate(s), if any, representing the shares of Series A Preferred Stock to the Corporation unless all of the shares of Series A Preferred Stock represented thereby are so converted, in which case such Holder shall deliver the certificate representing such shares of Series A Preferred Stock promptly following the Conversion Date at issue. Shares of Series A Preferred Stock converted into Common Stock shall be canceled and shall not be reissued.

b) Conversion Price. The conversion price for the Series A Preferred Stock shall equal \$0.45, subject to adjustment herein (the "Conversion Price"). In no event shall the Conversion Price be less than the Minimum Price defined in Nasdaq Listing Rule 5635(d).

c) Mechanics of Conversion

- i. Delivery of Conversion Shares Upon Conversion. Not later than the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined below) after each Conversion Date (the "Share Delivery Date"), the Corporation shall deliver, or cause to be delivered, to the converting Holder the number of Conversion Shares being acquired upon the conversion of the Series A Preferred Stock, which Conversion Shares shall be free of restrictive legends and trading restrictions. The Corporation shall use its reasonable best efforts to deliver the Conversion Shares required to be delivered by the Corporation under this Section 6 electronically through the Depository Trust Company or another established clearing corporation performing similar functions. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Corporation's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion.
 - ii. Failure to Deliver Conversion Shares. If, in the case of any Notice of Conversion, such Conversion Shares are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such Conversion Shares, to rescind such Conversion, in which event the Corporation shall promptly return to the Holder any original Preferred Stock certificate delivered to the Corporation and the Holder shall promptly return to the Corporation the Conversion Shares issued to such Holder pursuant to the rescinded Notice of Conversion.
 - iii. Obligation Absolute; Partial Liquidated Damages. Subject to Section 6(d), the Corporation's obligation to issue and deliver the Conversion Shares upon conversion of Series A Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a 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 such Holder or any other Person of any obligation to the Corporation or any violation or alleged violation of law by such Holder or any other Person, and irrespective of any other circumstance, which might otherwise limit such obligation of the Corporation to such Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of the Stated Value of its Series A Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or anyone associated or affiliated with such Holder has been engaged in any violation of law, agreement or for any other reason, other than pursuant to Section 6(d), unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Series A Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of the Series A Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment. In the absence of such injunction, subject to Section 6(d), the Corporation shall issue Conversion Shares and, if applicable, cash, upon a properly noticed conversion. If the Corporation fails to deliver to a Holder such Conversion Shares pursuant to Section 6(c)(i) by the Share Delivery Date applicable to such conversion, other than pursuant to Section 6(d), the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each \$5,000 of Stated Value of Series A Preferred Stock being converted, \$50 per Trading Day (increasing to \$100 per Trading Day on the third Trading Day after the Share Delivery Date and increasing to \$200 per Trading Day on the sixth Trading Day after the Share Delivery Date) for each Trading Day after the Share Delivery Date until such Conversion Shares are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages for the Corporation's failure to deliver Conversion Shares within the period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.
-
- iv. Compensation for Buy-In on Failure to Timely Deliver Conversion Shares Upon Conversion. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable Conversion Shares by the Share Delivery Date pursuant to Section 6(c)(i), and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Series A Preferred Stock equal to the number of shares of Series A Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(c)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of shares of Series A Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder \$1,000. The Holder shall provide the Corporation written notice indicating the amounts payable to such Holder in respect of the Buy-In and, upon request of the Corporation, 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 Corporation's failure to timely deliver the Conversion Shares upon conversion of the shares of Series A Preferred Stock as required pursuant to the terms hereof.
 - v. Reservation of Shares Issuable Upon Conversion. From and after the Reverse Stock Split Date and until no shares of Series A Preferred Stock remain outstanding, the Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Series A Preferred Stock as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Series A Preferred Stock), not less than the aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account any adjustments under Section 7) upon the conversion of the then outstanding shares of Series A Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.
-
- vi. Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Series A Preferred Stock. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such conversion, the Corporation 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 Conversion Price or round up to the next whole share. Notwithstanding anything to the contrary contained herein, but consistent with the provisions of this subsection with respect to fractional Conversion Shares, nothing shall prevent any Holder from converting fractional shares of Series A Preferred Stock.

- vii. Transfer Taxes and Expenses. The issuance of Conversion Shares on conversion of the Series A Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such Conversion Shares, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such Conversion Shares upon conversion in a name other than that of the Holders of such shares of Series A Preferred Stock and the Corporation shall not be required to issue or deliver such Conversion Shares unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

d) Beneficial Ownership Limitation. Notwithstanding anything to the contrary set forth herein, the Corporation shall not effect any conversion of the Series A Preferred Stock, and a Holder shall not have the right to convert any portion of the Series A Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates (such Persons, "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 such Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon conversion of the Series A Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Series A Preferred Stock beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Series A Preferred Stock) beneficially owned by such Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 6(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(d) applies, the determination of whether the Series A Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of how many shares of Series A Preferred Stock are convertible shall be in the sole discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Series A Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and how many shares of the Series A Preferred Stock are convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this Section 6(d) and the Corporation 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 6(d), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request (which may be via email) of a Holder, the Corporation shall within one (1) Trading Day confirm orally and in writing to such 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 Corporation, including the Series A Preferred Stock, by such Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% (or, upon election by a Holder prior to the issuance of any shares of Series A Preferred Stock, 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 conversion of Series A Preferred Stock held by the applicable Holder. A Holder, upon notice to the Corporation, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 6(d) applicable to its Series A Preferred Stock; provided, that the Beneficial Ownership Limitation shall not in any event exceed 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Series A Preferred Stock held by the Holder and the provisions of this Section 6(d) shall continue to apply. Any such increase will not be effective until the 61st day after such notice is delivered to the Corporation and shall only apply to such Holder and no other Holder. The Beneficial Ownership Limitation shall not be waived by the Corporation or the Holder and upon issuance of the Series A Preferred Stock by the Corporation, and the purchase thereof by the Holder, in accordance with the Purchase Agreement, each of the Corporation and the Purchaser shall be deemed to acknowledge such limitation and to agree not to waive it. The provisions of this Section 6(d) shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(d) to correct this Section (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this Section shall apply to a successor holder of Series A Preferred Stock.

Section 7. Certain Adjustments.

a) Stock Dividends and Stock Splits. If the Corporation, at any time while the Series A Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions that is payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, the Series A Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(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. Notwithstanding the foregoing in no event may the Conversion Price be less than the par value per share of Series A Preferred Stock.

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation 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 Common Stock or any class thereof (the "Purchase Rights"), then 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 complete conversion of such Holder's Series A Preferred Stock (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 (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

c) Distributions. During such time as the Series A Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders 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"), 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 conversion of the Series A Preferred Stock (without regard to any limitations on conversion 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 such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Fundamental Transaction. If, at any time while the Series A Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation (and all of its Subsidiaries, taken as a whole), 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 Corporation 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 at least 50% of the outstanding Common Stock, (iv) the Corporation, 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 Corporation, 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 or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock 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) (each a “Fundamental Transaction”), then, upon any subsequent conversion of the Series A Preferred Stock, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of the Series A Preferred Stock), the number of shares of Common Stock of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which the Series A Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of the Series A Preferred Stock). For purposes of any such conversion, the determination of the Conversion 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 Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock 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 any conversion of the Series A Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders’ right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents in accordance with the provisions of this Section 7(d) pursuant to written agreements in customary form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for the Series A Preferred Stock a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the Series A Preferred Stock which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of the Series A Preferred Stock (without regard to any limitations on the conversion of the Series A Preferred Stock) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of the Series A Preferred Stock immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, 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 Certificate of Designation and the other Transaction Documents referring to the “Corporation” shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

f) Calculations. All calculations under this Section 7 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 7, 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 any treasury shares of the Corporation) issued and outstanding.

g) Notice of Holders.

- i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder by facsimile or email a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.
 - ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock of 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 Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation (and all of its Subsidiaries, taken as a whole), or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be filed at each office or agency maintained for the purpose of conversion of the Preferred Stock, and shall cause to be delivered by email to each Holder at its last email address as it shall appear upon the stock books of the Corporation, at least twenty (20) 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. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert the Conversion Amount of the Preferred Stock (or any part thereof) during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.
-

Section 8. Mandatory Conversion and Forced Conversion.

a) Mandatory Conversion. Notwithstanding anything herein to the contrary, subject to Section 8(c), on the Reverse Stock Split Date or, if all of the Equity Conditions are not satisfied on the Reverse Stock Split Date, on the first such date after the Reverse Stock Split Date, if and only if such date is within and no later than fifteen (15) Trading Days after the Reverse Stock Split Date, that all of the Equity Conditions are satisfied (unless waived in writing by a Holder with respect to such Holder) (the “Mandatory Conversion Date”), the Corporation may deliver written notice of the Mandatory Conversion to all Holders on the Mandatory Conversion Date and, on such Mandatory Conversion Date, the Corporation shall convert all of each Holder’s shares of Series A Preferred Stock (the “Mandatory Conversion”) into Conversion Shares at the then effective Conversion Price on the Mandatory Conversion Date, it being agreed that the “Conversion Date” for purposes of Section 6 herein shall be deemed to be the Mandatory Conversion Date. The Mandatory Conversion hereunder shall not be effective, unless all of the Equity Conditions are met (unless waived in writing by a Holder with respect to such Holder) on the Mandatory Conversion Date through and including the Share Delivery Date and the actual delivery of all of the Conversion Shares to the Holders. For purposes of clarification, a Mandatory Conversion shall be subject to all of the provisions of Section 6, including, without limitation, Section 6(d) and the provision requiring payment of liquidated damages. If any of the Equity Conditions shall cease to be satisfied at any time on or after the Mandatory Conversion Date through and including the actual delivery of all of the Conversion Shares to the Holders, a Holder may elect to nullify the Mandatory Conversion as to such Holder by notice to the Corporation within three (3) Trading Days after the first day on which any such Equity Condition has not been satisfied (provided that if, by a provision of the Transaction Documents, the Corporation is obligated to notify the Holders of the non-existence of an Equity Condition, such notice period shall be extended to the second Trading Day after proper notice from the Corporation) in which case the Mandatory Conversion shall be null and void, *ab initio*. Subject to the other terms hereof, the Corporation covenants and agrees that the Corporation will honor all Notices of Conversion that are tendered by the Holder on or after the Mandatory Conversion Date.

b) Forced Conversion. At any time after 120 days following the Mandatory Conversion Date, the Corporation may deliver a written notice to all Holders (a “Forced Conversion Notice” and the date such notice is delivered to all Holders, the “Forced Conversion Notice Date”) to cause each Holder to convert all or part of such Holder’s Series A Preferred Stock (as specified in such Forced Conversion Notice) pursuant to Section 6 (a “Forced Conversion”), it being agreed that the “Conversion Date” for purposes of Section 6 shall be deemed to be the Forced Conversion Notice Date (such date, the “Forced Conversion Date”), provided that the Corporation shall not deliver a Forced Conversion Notice more than once in any 60 day period. The Corporation may not deliver a Forced Conversion Notice, and any Forced Conversion Notice delivered by the Corporation shall not be effective, unless all of the Equity Conditions have been met on the Forced Conversion Notice Date through and including the later of the Forced Conversion Date and the Trading Day after the date that the Conversion Shares issuable pursuant to such conversion are actually delivered to the Holders pursuant to the Forced Conversion Notice. Any Forced Conversion Notices shall be applied ratably to all of the Holders based on each Holder’s initial purchases of Series A Preferred Stock hereunder, provided that any voluntary conversions by a Holder shall be applied against such Holder’s *pro rata* allocation, thereby decreasing the aggregate amount forcibly converted hereunder if less than all shares of the Series A Preferred Stock are forcibly converted. For purposes of clarification, a Forced Conversion shall be subject to all of the provisions of Section 6, including, without limitation, the provisions requiring payment of liquidated damages and Section 6(d) on Beneficial Ownership Limitation on conversion.

c) Notwithstanding the terms of Sections 8(a) and 8(b) above, if the Corporation exercises its right to cause the conversion of Series A Preferred Stock pursuant to Sections 8(a) or 8(b), then, within two (2) Trading Days following the receipt of a Mandatory Conversion Notice or Forced Conversion Notice, each such Holder shall be entitled to Deliver a Redemption Notice to the Corporation to cause the Corporation to redeem its shares of Series A Preferred Stock otherwise subject to conversion, only to the extent the right to cause such redemption would otherwise be available to such Holder, pursuant to the terms of Section 9(a) below. In the event a Holder delivers a Redemption Notice pursuant to this Section 8(c), any conversion contemplated by the applicable Mandatory Conversion Notice or Forced Conversion Notice shall be null and void, *ab initio*, and the Corporation shall be obligated to redeem such Holder’s Series A Preferred Stock pursuant to Sections 9(a) and 9(b) below.

Section 9. Redemption

a) (i) After the earlier of (1) the receipt of Authorized Stockholder Approval and (2) the date that is 60 days following the Original Issue Date and (ii) before the date that is 90 days after the Original Issue Date, each Holder shall have the right to cause the Corporation to redeem all or part of such Holder’s shares of Series A Preferred Stock at a price per share equal to 105% of the Stated Value (the “Redemption Consideration”) other than any shares that have theretofore been called for redemption by the Corporation pursuant to Section 9(c) below.

b) Subject to the terms of Section 9(a) above, to cause the Corporation to redeem all or part of its shares of Series A Preferred Stock, each Holder shall deliver written notice to the Corporation (each, a “Redemption Notice”) setting forth the number of shares of Series A Preferred Stock that each such Holder wishes to redeem. The Corporation shall redeem the shares of Series A Preferred Stock in accordance with the Redemption Notice, no later than 5 days after the date on which the Redemption Notice is delivered to the Corporation (such date of redemption, the “Redemption Date”). Upon receipt of full payment in cash for a complete redemption, each Holder will promptly submit to the Corporation such Holder’s Series A Preferred Stock certificates, if any, and such redeemed shares shall no longer be deemed to be outstanding.

c) At any time after the date that is 90 days after the Original Issue Date, the Corporation shall have the option to redeem any or all shares of Series A Preferred Stock (other than any shares referenced in a Redemption Notice, the redemption of which shall be subject to Section 9(a) and 9(b), or any shares referenced in a Notice of Conversion) at a price per share equal to the Redemption Consideration, subject to the terms and conditions set forth in this Section 9(c). If the Corporation exercises its option to redeem any such shares, it shall effect such redemption on the date specified in a notice, which date shall be at least five (5) Business Days after delivery thereof (the “Call Date”), that shall be sent to each Holder whose shares are to be so redeemed by the Company pursuant hereto (the “Call Notice”). The Call Notice shall state (i) the Call Date and the number of shares of Series A Preferred Stock to be redeemed by the Corporation pursuant to this Section 9(c) on such date and (ii) that the Holder is to surrender to the Corporation, in the manner and at the place designated in the Call Notice, such Holder’s certificate or certificates, if any, representing the shares of Series A Preferred Stock to be redeemed pursuant to this Section 9(c). On the Call Date, the Corporation shall redeem the shares of Series A Preferred Stock subject to the Call Notice for the Redemption Consideration. Upon receipt of full payment in cash of the Redemption Consideration for a complete redemption, each Holder will promptly submit to the Corporation such Holder’s Series A Preferred Stock certificates, if any, and such redeemed shares shall no longer be deemed to be outstanding.

d) If on the Redemption Date or Call Date, as applicable, the Redemption Consideration for the shares of Series A Preferred Stock to be redeemed on the Redemption Date or the Call Date, as applicable, has been paid to the Holders, then, notwithstanding that any certificate representing any share subject to redemption pursuant to this Section 9 has not been surrendered to the Corporation for cancellation, on the Redemption Date or the Call Date, as applicable, all shares so submitted or called for redemption shall be cancelled, and all rights with respect to such shares shall forthwith on such Redemption Date or Call Date, as applicable, cease and terminate, except for the right of the Holders to receive the Redemption Consideration therefor, without interest.

e) Notwithstanding the terms of Sections 9(c) or Section 9(d) above, if the Corporation exercises its option to redeem shares of Series A Preferred Stock pursuant to Section 9(c), then each such Holder shall continue to be entitled to deliver a Notice of Conversion to the Corporation to cause the Corporation to convert its shares of Series A Preferred Stock otherwise subject to redemption in accordance with Section 6 at any time prior to the Call Date and only to the extent the right to cause such conversion would otherwise be available to such Holder pursuant to the terms of Section 6. In the event a Holder delivers a Notice of Conversion with respect to any of its shares of Series A Preferred Stock pursuant to this Section 9(e), any redemption by the Corporation of such shares contemplated by Section 9(c) shall be null and void, *ab initio*, and the Corporation shall be obligated to convert such Holder’s Series A Preferred Stock pursuant to Section 6.

Section 10. Miscellaneous.

a) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile or email attachment, or sent by a nationally recognized overnight courier service, addressed to the Corporation, at 1330 Avenue of the Americas, 33rd Floor, New York, NY 10019, Attention: Joseph Vazzano, Chief Financial Officer, email address jvazzano@abeonatherapeutics.com, or such other email address or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this Section 10. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by email attachment, or sent by a nationally recognized overnight courier service addressed to each Holder at the email address or address of such Holder appearing on the books of the Corporation, or if no such email address or address appears on the books of the Corporation, at the principal place of business of such Holder, as set forth in the Purchase Agreement. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via email attachment at the email address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via email attachment at the email address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given.

b) Lost or Mutilated Preferred Stock Certificate. If a Holder's Series A Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series A Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership hereof reasonably satisfactory to the Corporation (which shall not include the posting of any bond).

c) Severability. If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances.

d) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

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

f) Status of Converted or Redeemed Preferred Stock. Shares of Series A Preferred Stock may only be issued pursuant to the Purchase Agreement. If any shares of Series A Preferred Stock shall be converted, redeemed or reacquired by the Corporation, such shares may not be reissued and shall automatically be retired and cancelled and shall resume the status of authorized but unissued shares of preferred stock.

IN WITNESS WHEREOF, the undersigned have executed this Certificate this ___ day of April 2022.

Name: Joseph Vazzano
Title: Chief Financial Officer

ANNEX A

NOTICE OF CONVERSION
(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF SERIES A PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series A Convertible Redeemable Preferred Stock indicated below into shares of common stock, par value \$0.01 per share (the "Common Stock"), of Abeona Therapeutics Inc., a Delaware corporation (the "Corporation"), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____
Number of shares of Preferred Stock owned prior to Conversion: _____
Number of shares of Preferred Stock to be Converted: _____
Stated Value of shares of Preferred Stock to be Converted: _____
Number of shares of Common Stock to be Issued: _____
Applicable Conversion Price: _____
Number of shares of Preferred Stock subsequent to Conversion: _____
Address for Delivery: _____

Or

DWAC Instructions:
Broker no: _____
Account no: _____

HOLDER

By: _____
Name: _____
Title: _____

ABEONA THERAPEUTICS INC.
CERTIFICATE OF DESIGNATION OF PREFERENCES,
RIGHTS AND LIMITATIONS
OF
SERIES B CONVERTIBLE REDEEMABLE PREFERRED STOCK

PURSUANT TO SECTION 151 OF THE
DELAWARE GENERAL CORPORATION LAW

The undersigned, Joseph Vazzano, does hereby certify that:

1. He is the Chief Financial Officer of Abeona Therapeutics Inc., a Delaware corporation (the “Corporation”).
2. The Corporation is authorized to issue 2,000,000 shares of preferred stock, none of which have been issued.
3. The following resolutions were duly adopted by the board of directors of the Corporation (the “Board of Directors”):

WHEREAS, the Restated Certificate of Incorporation of the Corporation (the “Certificate of Incorporation”), provides for a class of its authorized stock known as preferred stock, consisting of 2,000,000 shares, \$0.01 par value per share, issuable from time to time in one or more series;

WHEREAS, the Board of Directors is authorized by resolution to provide for the issuance of preferred stock in one or more series, and to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, privileges, preferences and relative participating, optional or other rights, if any, of the shares of each such series and the qualifications, limitations or restrictions thereof; and

WHEREAS, it is the desire of the Board of Directors, pursuant to its authority as described above, to fix the rights, preferences, restrictions and other matters relating to a series of the preferred stock, which shall consist of 250,005 shares of the preferred stock which the Corporation has the authority to issue.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors does hereby provide for the issuance of a series of preferred stock to be designated “Series B Convertible Redeemable Preferred Stock” and does hereby fix and determine the designation, powers, privileges, preferences and relative participating, optional or other rights, if any, of the shares of each such series and the qualifications, limitations or restrictions thereof as follows:

Section 1. Definitions. For the purposes hereof, the following terms shall have the following meanings:

“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 of the Securities Act.

“Alternate Consideration” shall have the meaning set forth in Section 7(d).

“Amendment” means the amendment to the Corporation’s Certificate of Incorporation to, after the date hereof, effect the Reverse Stock Split.

“Authorized Stockholder Approval” means approval of the Amendment by the holders of a majority in voting power of the then outstanding shares of capital stock of the Corporation entitled to vote on the matter.

“Beneficial Ownership Limitation” shall have the meaning set forth in Section 6(d).

“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 the State of New York are authorized or required by law or other governmental action to close.

“Buy-In” shall have the meaning set forth in Section 6(c)(iv).

“Change of Control Transaction” means the occurrence after the date hereof of any of (a) an acquisition by an individual or legal entity or “group” (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of the Corporation, by contract or otherwise) of in excess of 33% of the voting securities of the Corporation (other than by means of the issuance, sale, conversion or exercise of Series A Preferred Stock or Series B Preferred Stock), (b) the Corporation merges into or consolidates with any other Person, or any Person merges into or consolidates with the Corporation and, after giving effect to such transaction, the stockholders of the Corporation immediately prior to such transaction own less than 66% of the aggregate voting power of the Corporation or the successor entity of such transaction, (c) the Corporation (and all of its Subsidiaries, taken as a whole) sells or transfers all or substantially all of its assets to another Person and the stockholders of the Corporation immediately prior to such transaction own less than 66% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a one year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the Original Issue Date), or (e) the execution by the Corporation of an agreement to which the Corporation is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

“Closing” means the closing of the purchase and sale of the Series B Preferred Stock pursuant to Section 2.1 of the Purchase Agreement.

“Closing Date” means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto and all conditions precedent to (i) each Holder’s obligations to pay the Subscription Amount and (ii) the Corporation’s obligations to deliver the Series B Preferred Stock have been satisfied or waived.

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the Corporation’s common stock, \$0.01 par value per share, and stock of any other class of securities into which such securities may hereafter be reclassified, converted or changed.

“Common Stock Equivalents” means any securities of the Corporation or the Subsidiaries which would entitle the holder thereof to acquire at any time

Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants 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.

“Conversion Amount” means the Stated Value at issue.

“Conversion Date” shall have the meaning set forth in Section 6(a).

“Conversion Price” shall have the meaning set forth in Section 6(b).

“Conversion Shares” means, collectively, the shares of Common Stock issuable upon conversion of the shares of Series B Preferred Stock in accordance with the terms hereof.

“Escrow Agreement” means the escrow agreement to be entered into concurrently with the Purchase Agreement, by and among the Corporation, Wilmington Trust, National Association, and the other party thereto.

“Equity Conditions” means, during the period in question, (a) the Corporation shall have paid all liquidated damages and other amounts owing to the applicable Holder in respect of the Series B Preferred Stock, (b)(i) there is an effective registration statement pursuant to which either (A) the Corporation may issue Conversion Shares or (B) the Holders are permitted to utilize the prospectus thereunder to resell all of the shares of Common Stock issuable pursuant to the Transaction Documents (and the Corporation believes, in good faith, that such effectiveness will continue uninterrupted for the foreseeable future), (ii) all of the Conversion Shares issuable pursuant to the Transaction Documents (and shares issuable in lieu of cash payments of dividends) may be resold pursuant to Rule 144 without volume or manner-of-sale restrictions or current public information requirements as determined by the counsel to the Corporation as set forth in a written opinion letter to such effect, addressed and reasonably acceptable to the Transfer Agent and the affected Holder, or (iii) all of the Conversion Shares may be issued to the Holder pursuant to Section 3(a)(9) of the Securities Act and immediately resold without restriction, (c) the Common Stock is trading on a Trading Market and all of the shares of Common Stock issuable upon conversion of the Series B Preferred Stock are listed or quoted for trading on such Trading Market (and the Corporation believes, in good faith, that trading of the Common Stock on a Trading Market will continue uninterrupted for the foreseeable future), (d) there is a sufficient number of authorized, but unissued and otherwise unreserved, shares of Common Stock for the issuance of all of the shares then issuable pursuant to the Transaction Documents, (e) Authorized Stockholder Approval shall have been received and be effective, (f) the issuance of the shares in question to the applicable Holder would not violate the limitations set forth in Section 6(d) herein, (g) the shares of Common Stock have traded on the applicable Trading Market during a consecutive ten (10) day period at an average market price per share greater than \$2.00 (as adjusted for stock splits) and the average daily trading volume during such period is equal to or greater than \$2,000,000, (h) there has been no public announcement of a pending or proposed Fundamental Transaction or Change of Control Transaction that has not been consummated, (i) the applicable Holder is not in possession of any information provided by the Corporation, any of its Subsidiaries, or any of their officers, directors, employees, agents or Affiliates, that constitutes, or may constitute, material non-public information and (j) the Corporation shall have duly honored all conversions scheduled to occur or occurring by virtue of one or more Notices of Conversion of the applicable Holder on or prior to the dates so requested or required, if any.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Forced Conversion Date” shall have the meaning set forth in Section 8(b).

“Forced Conversion Notice” shall have the meaning set forth in Section 8(b).

“Forced Conversion Notice Date” shall have the meaning set forth in Section 8(b).

“Fundamental Transaction” shall have the meaning set forth in Section 7(d).

“GAAP” means United States generally accepted accounting principles.

“Holder” shall have the meaning given such term in Section 2.

“Liquidation” shall have the meaning set forth in Section 5.

“Mandatory Conversion” shall have the meaning set forth in Section 8(a).

“Mandatory Conversion Date” shall have the meaning set forth in Section 8(a).

“Notice of Conversion” shall have the meaning set forth in Section 6(a).

“Original Issue Date” means the date of the first issuance of any shares of the Series B Preferred Stock regardless of the number of transfers of any particular shares of Series B Preferred Stock and regardless of the number of certificates which may be issued to evidence such Series B Preferred Stock.

“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.

“Purchase Agreement” means the Preferred Stock Purchase Agreement, dated as of April 29, 2022, among the Corporation and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

“Reverse Stock Split” means the reverse stock split of the Corporation’s Common Stock that is effected by the Corporation’s filing of the Amendment with and acceptance by the Secretary of State of the State of Delaware.

“Reverse Stock Split Date” means the date on which the Amendment to effectuate the Reverse Stock Split is filed and accepted by the Secretary of State of the State of Delaware.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Series A Preferred Stock Certificate of Designation” means the Certificate of Designation of Preferences, Rights and Limitations of the Series A Convertible Redeemable Preferred Stock of the Corporation, dated as of the date hereof.

“Series B Preferred Stock” shall have the meaning set forth in Section 2.

“Share Delivery Date” shall have the meaning set forth in Section 6(c).

“Stated Value” shall have the meaning set forth in Section 2.

“Subscription Amount” shall mean, as to each Holder, the aggregate amount to be paid for the Series B Preferred Stock purchased pursuant to the Purchase Agreement as specified below such Holder’s name on the signature page of the Purchase Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsidiary” means any subsidiary of the Corporation as set forth on Schedule 3.1(a) of the Purchase Agreement and shall, where applicable, also include any direct or indirect subsidiary of the Corporation formed or acquired after the date of the Purchase Agreement.

“Successor Entity” shall have the meaning set forth in Section 7(d).

“Trading Day” means a day on which the principal Trading Market is open for business.

“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).

“Transaction Documents” means this Certificate of Designation, the Series B Preferred Stock Certificate of Designation, the Purchase Agreement, the Registration Rights Agreement, the Escrow Agreement, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated pursuant to the Purchase Agreement, in each case as amended, modified or supplemented from time to time in accordance with its terms.

“Transfer Agent” means American Stock Transfer & Trust Company, and any successor transfer agent of the Corporation.

Section 2. Designation, Amount and Par Value. The series of preferred stock shall be designated as “Series B Convertible Redeemable Preferred Stock” (the “Series B Preferred Stock”) and the number of shares of such series shall be **250,000** (which shall not be subject to increase without the written consent of the holders of a majority of the then outstanding shares of the Series B Preferred Stock (each, a “Holder” and collectively, the “Holders”). Each share of Series B Preferred Stock shall have a par value of \$0.01 per share and a stated value equal to \$20.00 (the “Stated Value”).

Section 3. Dividends. Except for stock dividends or distributions for which adjustments are to be made pursuant to Section 7, Holders shall be entitled to receive, and the Corporation shall pay, dividends on shares of Series B Preferred Stock equal (on an as-if-converted-to-Common-Stock basis, disregarding for such purpose any conversion limitations hereunder) to and in the same form as dividends actually paid on shares of the Common Stock when, as and if such dividends are paid on shares of the Common Stock. No other dividends shall be paid on shares of Series B Preferred Stock. The Corporation shall not pay any dividends on the Common Stock unless the Corporation simultaneously complies with this provision.

Section 4. Voting Rights.

a) Solely for purposes of determining the presence of a quorum at any meeting of the stockholders of the Corporation at which the shares of Series B Preferred Stock are entitled to vote, the number of shares of Series B Preferred Stock and votes represented by such shares shall be counted on an as converted to Common Stock basis, disregarding, for such purposes, any limitations on conversion set forth herein.

b) Each share of Series B Preferred Stock shall entitle the holder thereof (a) to vote exclusively with respect to the Amendment and the Reverse Stock Split (and the Series B Preferred Stock shall not be entitled to vote on any other matter except to the extent required under the Delaware General Corporation Law or provided herein) and (b) to 15,000 votes per each share of Series B Preferred Stock and shall, except as required by law, vote together with the Common Stock and any other issued and outstanding shares of preferred stock of the Corporation that are entitled to vote thereon, as a single class; provided, that all votes cast by the Series B Preferred Stock with regards to any proposal for the approval of the Amendment and the Reverse Stock Split, when properly cast by the Holder, shall be voted, without further action of such Holder, in the same proportion as shares of Common Stock and any other shares of capital stock that are entitled to vote thereon are voted (excluding any shares of Common Stock that are not voted) on the Amendment and Reverse Stock Split. Notwithstanding the foregoing, in addition, as long as any shares of Series B Preferred Stock are outstanding, the Corporation shall not, without the affirmative vote of the Holders of a majority of the then outstanding shares of the Series B Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series B Preferred Stock or alter or amend this Certificate of Designation, (b) amend its certificate of incorporation or other charter documents in a manner adverse to the Holders, (c) increase the number of authorized shares of Series B Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing.

Section 5. Liquidation. Upon any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary (a “Liquidation”), prior and in preference to the Common Stock, the Holders shall be entitled to receive out of the assets available for distribution to stockholders an amount in cash equal to 105% of the Stated Value and no more. The preference set forth in this Section 5 with respect to distributions to the Series B Preferred Stock upon a Liquidation shall apply *mutatis mutandis* to any distributions to be made upon the consummation of a Fundamental Transaction or Change of Control Transaction. The Corporation shall mail written notice of any such Liquidation, Fundamental Transaction or Change of Control Transaction not less than 45 days prior to the payment date stated therein, to each Holder.

Section 6. Conversion.

a) Conversions at Option of Holder. Subject to Section 6(d), each share of Series B Preferred Stock shall be convertible, at any time and from time to time only after the Reverse Stock Split Date, at the option of the Holder thereof, into that number of shares of Common Stock determined by dividing the Stated Value of such share of Series B Preferred Stock by the Conversion Price. Holders shall effect conversions by delivering to the Corporation a conversion notice in the form attached hereto as Annex A (a “Notice of Conversion”). Each Notice of Conversion shall specify the number of shares of Series B Preferred Stock to be converted, the number of shares of Series B Preferred Stock owned prior to the conversion at issue, the number of shares of Series B Preferred Stock owned subsequent to the conversion at issue and the date on which such conversion is to be effected, which date may not be prior to the date the applicable Holder delivers such Notice of Conversion to the Corporation (such date, the “Conversion Date”). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be as of the close of business on the Business Day that such Notice of Conversion is delivered to the Corporation, or if such day is not a Business day or if the Notice of Conversion is delivered after regular business hours, the next Business Day. No ink-original Notice of Conversion shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Conversion form be required. The calculations and entries set forth in the Notice of Conversion shall control in the absence of manifest or mathematical error. From and after the Conversion Date, until presented for transfer or exchange, certificates that previously represented shares of Series B Preferred Stock shall represent, in lieu of the number of shares of Series B Preferred Stock previously represented by such certificate, the number of shares of Series B Preferred Stock, if any, previously represented by such certificate that were not converted pursuant to the Notice of Conversion, plus the number of shares of Conversion Shares into which the shares of Series B Preferred Stock previously represented by such certificate were converted. To effect conversions of shares of Series B Preferred Stock, a Holder shall not be required to surrender the certificate(s), if any, representing the shares of Series B Preferred Stock to the Corporation unless all of the shares of Series B Preferred Stock represented thereby are so converted, in which case such Holder shall deliver the certificate representing such shares of Series B Preferred Stock promptly following the Conversion Date at issue. Shares of Series B Preferred Stock converted into Common Stock shall be canceled and shall not be reissued.

b) Conversion Price. The conversion price for the Series B Preferred Stock shall equal \$0.45, subject to adjustment herein (the “Conversion Price”). In no event

c) Mechanics of Conversion

- i. Delivery of Conversion Shares Upon Conversion. Not later than the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined below) after each Conversion Date (the “Share Delivery Date”), the Corporation shall deliver, or cause to be delivered, to the converting Holder the number of Conversion Shares being acquired upon the conversion of the Series B Preferred Stock, which Conversion Shares shall be free of restrictive legends and trading restrictions. The Corporation shall use its reasonable best efforts to deliver the Conversion Shares required to be delivered by the Corporation under this Section 6 electronically through the Depository Trust Company or another established clearing corporation performing similar functions. As used herein, “Standard Settlement Period” means the standard settlement period, expressed in a number of Trading Days, on the Corporation’s primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Conversion.
- ii. Failure to Deliver Conversion Shares. If, in the case of any Notice of Conversion, such Conversion Shares are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to the Corporation at any time on or before its receipt of such Conversion Shares, to rescind such Conversion, in which event the Corporation shall promptly return to the Holder any original Preferred Stock certificate delivered to the Corporation and the Holder shall promptly return to the Corporation the Conversion Shares issued to such Holder pursuant to the rescinded Notice of Conversion.
- iii. Obligation Absolute: Partial Liquidated Damages. Subject to Section 6(d), the Corporation’s obligation to issue and deliver the Conversion Shares upon conversion of Series B Preferred Stock in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by a 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 such Holder or any other Person of any obligation to the Corporation or any violation or alleged violation of law by such Holder or any other Person, and irrespective of any other circumstance, which might otherwise limit such obligation of the Corporation to such Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by the Corporation of any such action that the Corporation may have against such Holder. In the event a Holder shall elect to convert any or all of the Stated Value of its Series B Preferred Stock, the Corporation may not refuse conversion based on any claim that such Holder or anyone associated or affiliated with such Holder has been engaged in any violation of law, agreement or for any other reason, other than pursuant to Section 6(d), unless an injunction from a court, on notice to Holder, restraining and/or enjoining conversion of all or part of the Series B Preferred Stock of such Holder shall have been sought and obtained, and the Corporation posts a surety bond for the benefit of such Holder in the amount of 150% of the Stated Value of the Series B Preferred Stock which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to such Holder to the extent it obtains judgment. In the absence of such injunction, subject to Section 6(d), the Corporation shall issue Conversion Shares and, if applicable, cash, upon a properly noticed conversion. If the Corporation fails to deliver to a Holder such Conversion Shares pursuant to Section 6(c)(i) by the Share Delivery Date applicable to such conversion, other than pursuant to Section 6(d), the Corporation shall pay to such Holder, in cash, as liquidated damages and not as a penalty, for each \$5,000 of Stated Value of Series B Preferred Stock being converted, \$50 per Trading Day (increasing to \$100 per Trading Day on the third Trading Day after the Share Delivery Date and increasing to \$200 per Trading Day on the sixth Trading Day after the Share Delivery Date) for each Trading Day after the Share Delivery Date until such Conversion Shares are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder’s right to pursue actual damages for the Corporation’s failure to deliver Conversion Shares within the period specified herein and such Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit a Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.
- iv. Compensation for Buy-In on Failure to Timely Deliver Conversion Shares Upon Conversion. In addition to any other rights available to the Holder, if the Corporation fails for any reason to deliver to a Holder the applicable Conversion Shares by the Share Delivery Date pursuant to Section 6(c)(i), and if after such Share Delivery Date such Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder’s brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by such Holder of the Conversion Shares which such Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a “Buy-In”), then the Corporation shall (A) pay in cash to such Holder (in addition to any other remedies available to or elected by such Holder) the amount, if any, by which (x) such Holder’s total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that such Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of such Holder, either reissue (if surrendered) the shares of Series B Preferred Stock equal to the number of shares of Series B Preferred Stock submitted for conversion (in which case, such conversion shall be deemed rescinded) or deliver to such Holder the number of shares of Common Stock that would have been issued if the Corporation had timely complied with its delivery requirements under Section 6(c)(i). For example, if a Holder purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of shares of Series B Preferred Stock with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, the Corporation shall be required to pay such Holder \$1,000. The Holder shall provide the Corporation written notice indicating the amounts payable to such Holder in respect of the Buy-In and, upon request of the Corporation, 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 Corporation’s failure to timely deliver the Conversion Shares upon conversion of the shares of Series B Preferred Stock as required pursuant to the terms hereof.
- v. Reservation of Shares Issuable Upon Conversion. From and after the Reverse Stock Split Date and until no shares of Series B Preferred Stock remain outstanding, the Corporation covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of the Series B Preferred Stock as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Series B Preferred Stock), not less than the aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account any adjustments under Section 7) upon the conversion of the then outstanding shares of Series B Preferred Stock. The Corporation covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.
- vi. Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the conversion of the Series B Preferred Stock. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such conversion, the Corporation 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 Conversion Price or round up to the next whole share. Notwithstanding anything to the contrary contained herein, but consistent with the provisions of this subsection with respect to fractional Conversion Shares, nothing shall prevent any Holder from converting fractional shares of Series B Preferred Stock.

- vii. Transfer Taxes and Expenses. The issuance of Conversion Shares on conversion of the Series B Preferred Stock shall be made without charge to any Holder for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such Conversion Shares, provided that the Corporation shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such Conversion Shares upon conversion in a name other than that of the Holders of such shares of Series B Preferred Stock and the Corporation shall not be required to issue or deliver such Conversion Shares unless or until the Person or Persons requesting the issuance thereof shall have paid to the Corporation the amount of such tax or shall have established to the satisfaction of the Corporation that such tax has been paid. The Corporation shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Conversion Shares.

d) Beneficial Ownership Limitation. Notwithstanding anything to the contrary set forth herein, the Corporation shall not effect any conversion of the Series B Preferred Stock, and a Holder shall not have the right to convert any portion of the Series B Preferred Stock, to the extent that, after giving effect to the conversion set forth on the applicable Notice of Conversion, such Holder (together with such Holder's Affiliates, and any Persons acting as a group together with such Holder or any of such Holder's Affiliates (such Persons, "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 such Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon conversion of the Series B Preferred Stock with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted Series B Preferred Stock beneficially owned by such Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Corporation subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, the Series B Preferred Stock) beneficially owned by such Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 6(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 6(d) applies, the determination of whether the Series B Preferred Stock is convertible (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and of how many shares of Series B Preferred Stock are convertible shall be in the sole discretion of such Holder, and the submission of a Notice of Conversion shall be deemed to be such Holder's determination of whether the shares of Series B Preferred Stock may be converted (in relation to other securities owned by such Holder together with any Affiliates and Attribution Parties) and how many shares of the Series B Preferred Stock are convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, each Holder will be deemed to represent to the Corporation each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this Section 6(d) and the Corporation 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 6(d), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) the Corporation's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by the Corporation or (iii) a more recent written notice by the Corporation or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request (which may be via email) of a Holder, the Corporation shall within one (1) Trading Day confirm orally and in writing to such 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 Corporation, including the Series B Preferred Stock, by such Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% (or, upon election by a Holder prior to the issuance of any shares of Series B Preferred Stock, 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 conversion of Series B Preferred Stock held by the applicable Holder. A Holder, upon notice to the Corporation, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 6(d) applicable to its Series B Preferred Stock; provided, that the Beneficial Ownership Limitation shall not in any event exceed 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Series B Preferred Stock held by the Holder and the provisions of this Section 6(d) shall continue to apply. Any such increase will not be effective until the 61st day after such notice is delivered to the Corporation and shall only apply to such Holder and no other Holder. The Beneficial Ownership Limitation shall not be waived by the Corporation or the Holder and upon issuance of the Series B Preferred Stock by the Corporation, and the purchase thereof by the Holder, in accordance with the Purchase Agreement, each of the Corporation and the Purchaser shall be deemed to acknowledge such limitation and to agree not to waive it. The provisions of this Section 6(d) shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 6(d) to correct this Section (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this Section shall apply to a successor holder of Series B Preferred Stock.

Section 7. Certain Adjustments.

a) Stock Dividends and Stock Splits. If the Corporation, at any time while the Series B Preferred Stock is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions that is payable in shares of Common Stock on shares of Common Stock or any other Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Corporation upon conversion of, or payment of a dividend on, the Series B Preferred Stock), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of the Corporation, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of the Corporation) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section 7(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. Notwithstanding the foregoing in no event may the Conversion Price be less than the par value per share of Series B Preferred Stock.

b) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 7(a) above, if at any time the Corporation 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 Common Stock or any class thereof (the "Purchase Rights"), then 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 complete conversion of such Holder's Series B Preferred Stock (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 (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

c) Distributions. During such time as the Series B Preferred Stock is outstanding, if the Corporation declares or makes any dividend or other distribution of its assets (or rights to acquire its assets) to holders 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"), 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 conversion of the Series B Preferred Stock (without regard to any limitations on conversion 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 such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Fundamental Transaction. If, at any time while the Series B Preferred Stock is outstanding, (i) the Corporation, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Corporation with or into another Person, (ii) the Corporation (and all of its Subsidiaries, taken as a whole), 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 Corporation 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 at least 50% of the outstanding Common Stock, (iv) the Corporation, 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 Corporation, 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 or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock 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) (each a "Fundamental Transaction"), then, upon any subsequent conversion of the Series B Preferred Stock, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of the Series B Preferred Stock), the number of shares of Common Stock of the successor or acquiring corporation or of the Corporation, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which the Series B Preferred Stock is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 6(d) on the conversion of the Series B Preferred Stock). For purposes of any such conversion, the determination of the Conversion 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 Corporation shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock 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 any conversion of the Series B Preferred Stock following such Fundamental Transaction. To the extent necessary to effectuate the foregoing provisions, any successor to the Corporation or surviving entity in such Fundamental Transaction shall file a new Certificate of Designation with the same terms and conditions and issue to the Holders new preferred stock consistent with the foregoing provisions and evidencing the Holders' right to convert such preferred stock into Alternate Consideration. The Corporation shall cause any successor entity in a Fundamental Transaction in which the Corporation is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents in accordance with the provisions of this Section 7(d) pursuant to written agreements in customary form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for the Series B Preferred Stock a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the Series B Preferred Stock which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of the Series B Preferred Stock (without regard to any limitations on the conversion of the Series B Preferred Stock) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of the Series B Preferred Stock immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, 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 Certificate of Designation and the other Transaction Documents referring to the "Corporation" shall refer instead to the Successor Entity), and may exercise every right and power of the Corporation and shall assume all of the obligations of the Corporation under this Certificate of Designation and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Corporation herein.

f) Calculations. All calculations under this Section 7 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 7, 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 any treasury shares of the Corporation) issued and outstanding.

g) Notice of Holders.

- i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 7, the Corporation shall promptly deliver to each Holder by facsimile or email a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.
- ii. Notice to Allow Conversion by Holder. If (A) the Corporation shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Corporation shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Corporation shall authorize the granting to all holders of the Common Stock of 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 Corporation shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Corporation is a party, any sale or transfer of all or substantially all of the assets of the Corporation (and all of its Subsidiaries, taken as a whole), or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) the Corporation shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Corporation, then, in each case, the Corporation shall cause to be filed at each office or agency maintained for the purpose of conversion of the Preferred Stock, and shall cause to be delivered by email to each Holder at its last email address as it shall appear upon the stock books of the Corporation, at least twenty (20) 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. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Corporation or any of the Subsidiaries, the Corporation shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert the Conversion Amount of the Preferred Stock (or any part hereof) during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 8. Mandatory Conversion and Forced Conversion.

a) Mandatory Conversion. Notwithstanding anything herein to the contrary, subject to Section 8(c), on the Reverse Stock Split Date or, if all of the Equity Conditions are not satisfied on the Reverse Stock Split Date, on the first such date after the Reverse Stock Split Date, if and only if such date is within and no later than fifteen (15) Trading Days after the Reverse Stock Split Date, that all of the Equity Conditions are satisfied (unless waived in writing by a Holder with respect to such Holder) (the "Mandatory Conversion Date"), the Corporation may deliver written notice of the Mandatory Conversion to all Holders on the Mandatory Conversion Date and, on such Mandatory Conversion Date, the Corporation shall convert all of each Holder's shares of Series B Preferred Stock (the "Mandatory Conversion") into Conversion Shares at the then effective Conversion Price on the Mandatory Conversion Date, it being agreed that the "Conversion Date" for purposes of Section 6 herein shall be deemed to be the Mandatory Conversion Date. The Mandatory Conversion hereunder shall not be effective, unless all of the Equity Conditions are met (unless waived in writing by a Holder with respect to such Holder) on the Mandatory Conversion Date through and including the Share Delivery Date and the actual delivery of all of the Conversion Shares to the Holders. For purposes of clarification, a Mandatory Conversion shall be subject to all of the provisions of Section 6, including, without limitation, Section 6(d) and the provision requiring payment of liquidated damages. If any of the Equity Conditions shall cease to be satisfied at any time on or after the Mandatory Conversion Date through and including the actual delivery of all of the Conversion Shares to the Holders, a Holder may elect to nullify the Mandatory Conversion as to such Holder by notice to the Corporation within three (3) Trading Days after the first day on which any such Equity Condition has not been satisfied (provided that if, by a provision of the Transaction Documents, the Corporation is obligated to notify the Holders of the non-existence of an Equity Condition, such notice period shall be extended to the second Trading Day after proper notice from the Corporation) in which case the Mandatory Conversion shall be null and void, ab initio. Subject to the other terms hereof, the Corporation covenants and agrees that the Corporation will honor all Notices of Conversion that are tendered by the Holder on or after the Mandatory Conversion Date.

b) Forced Conversion. At any time after 120 days following the Mandatory Conversion Date, the Corporation may deliver a written notice to all Holders (a "Forced Conversion Notice" and the date such notice is delivered to all Holders, the "Forced Conversion Notice Date") to cause each Holder to convert all or part of such Holder's Series B Preferred Stock (as specified in such Forced Conversion Notice) pursuant to Section 6 (a "Forced Conversion"), it being agreed that the "Conversion Date" for purposes of Section 6 shall be deemed to be the Forced Conversion Notice Date (such date, the "Forced Conversion Date"), provided that the Corporation shall not deliver a Forced Conversion Notice more than once in any 60 day period. The Corporation may not deliver a Forced Conversion Notice, and any Forced Conversion Notice delivered by the Corporation shall not be effective, unless all of the Equity Conditions have been met on the Forced Conversion Notice Date through and including the later of the Forced Conversion Date and the Trading Day after the date that the Conversion Shares issuable pursuant to such conversion are actually delivered to the Holders pursuant to the Forced Conversion Notice. Any Forced Conversion Notices shall be applied ratably to all of the Holders based on each Holder's initial purchases of Series B Preferred Stock hereunder, provided that any voluntary conversions by a Holder shall be applied against such Holder's pro rata allocation, thereby decreasing the aggregate amount forcibly converted hereunder if less than all shares of the Series B Preferred Stock are forcibly converted. For purposes of clarification, a Forced Conversion shall be subject to all of the provisions of Section 6, including, without limitation, the provisions requiring payment of liquidated damages and Section 6(d) on Beneficial Ownership Limitation on conversion.

c) Notwithstanding the terms of Sections 8(a) and 8(b) above, if the Corporation exercises its right to cause the conversion of Series B Preferred Stock pursuant to Sections 8(a) or 8(b), then, within two (2) Trading Days following the receipt of a Mandatory Conversion Notice or Forced Conversion Notice, each such Holder shall be entitled to Deliver a Redemption Notice to the Corporation to cause the Corporation to redeem its shares of Series B Preferred Stock otherwise subject to conversion, only to the extent the right to cause such redemption would otherwise be available to such Holder, pursuant to the terms of Section 9 below. In the event a Holder delivers a Redemption Notice pursuant to this Section 8(c), any conversion contemplated by the applicable Mandatory Conversion Notice or Forced Conversion Notice shall be null and void, ab initio, and the Corporation shall be obligated to redeem such Holder's Series B Preferred Stock pursuant to Section 9.

Section 9. Redemption

a) (i) After the earlier of (1) the receipt of Authorized Stockholder Approval and (2) the date that is 60 days following the Original Issue Date and (ii) before the date that is 90 days after the Original Issue Date (the "Redemption Period"), each Holder shall have the right to cause the Corporation to redeem all or part of such Holder's shares of Series B Preferred Stock at a price per share equal to 105% of the Stated Value.

b) Subject to the terms of Section 9(a) above, to cause the Corporation to redeem all or part of its shares of Series B Preferred Stock, each Holder shall deliver written notice to the Corporation (each, a "Redemption Notice") setting forth the number of shares of Series B Preferred Stock that each such Holder wishes to redeem. The Corporation shall redeem the shares of Series B Preferred Stock in accordance with the Redemption Notice, no later than 5 days after the date on which the Redemption Notice is delivered to the Corporation. Upon receipt of full payment in cash for a complete redemption, each Holder will promptly submit to the Corporation such Holder's Series B Preferred Stock certificates, if any, and such redeemed shares shall no longer be deemed to be outstanding.

Section 10. Miscellaneous.

a) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Conversion, shall be in writing and delivered personally, by facsimile or email attachment, or sent by a nationally recognized overnight courier service, addressed to the Corporation, at 1330 Avenue of the Americas, 33rd Floor, New York, NY 10019, Attention: Joseph Vazzano, Chief Financial Officer, email address jvazzano@abeonatherapeutics.com, or such other email address or address as the Corporation may specify for such purposes by notice to the Holders delivered in accordance with this Section 10. Any and all notices or other communications or deliveries to be provided by the Corporation hereunder shall be in writing and delivered personally, by email attachment, or sent by a nationally recognized overnight courier service addressed to each Holder at the email address or address of such Holder appearing on the books of the Corporation, or if no such email address or address appears on the books of the Corporation, at the principal place of business of such Holder, as set forth in the Purchase Agreement. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via email attachment at the email address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via email attachment at the email address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given.

b) Lost or Mutilated Preferred Stock Certificate. If a Holder's Series B Preferred Stock certificate shall be mutilated, lost, stolen or destroyed, the Corporation shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated certificate, or in lieu of or in substitution for a lost, stolen or destroyed certificate, a new certificate for the shares of Series B Preferred Stock so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such certificate, and of the ownership hereof reasonably satisfactory to the Corporation (which shall not include the posting of any bond).

c) Severability. If any provision of this Certificate of Designation is invalid, illegal or unenforceable, the balance of this Certificate of Designation shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances.

d) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

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

f) Status of Converted or Redeemed Preferred Stock. Shares of Series B Preferred Stock may only be issued pursuant to the Purchase Agreement. If any shares of Series B Preferred Stock shall be converted, redeemed or reacquired by the Corporation, such shares may not be reissued and shall automatically be retired and cancelled and shall resume the status of authorized but unissued shares of preferred stock.

IN WITNESS WHEREOF, the undersigned have executed this Certificate this ___ day of April 2022.

Name: Joseph Vazzano
Title: Chief Financial Officer

ANNEX A

NOTICE OF CONVERSION

(TO BE EXECUTED BY THE REGISTERED HOLDER IN ORDER TO CONVERT SHARES OF SERIES B PREFERRED STOCK)

The undersigned hereby elects to convert the number of shares of Series B Convertible Redeemable Preferred Stock indicated below into shares of common stock, par value \$0.01 per share (the "Common Stock"), of Abeona Therapeutics Inc., a Delaware corporation (the "Corporation"), according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto. No fee will be charged to the Holders for any conversion, except for any such transfer taxes.

Conversion calculations:

Date to Effect Conversion: _____
Number of shares of Preferred Stock owned prior to Conversion: _____
Number of shares of Preferred Stock to be Converted: _____
Stated Value of shares of Preferred Stock to be Converted: _____
Number of shares of Common Stock to be Issued: _____
Applicable Conversion Price: _____
Number of shares of Preferred Stock subsequent to Conversion: _____
Address for Delivery: _____

Or

DWAC Instructions:

Broker no: _____
Account no: _____

HOLDER

By: _____
Name: _____
Title: _____

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this "Agreement") is dated as of April 29, 2022, between Abeona Therapeutics Inc., a Delaware corporation (the "Company"), and each purchaser identified on the signature pages hereto (each, including its successors and assigns, a "Purchaser" and collectively the "Purchasers").

RECITALS

A. The Company and the Purchasers are executing and delivering this Agreement in reliance upon the exemption from securities registration afforded by Section 4(a) (2) of the Securities Act of 1933, as amended (the "Securities Act"), and/or Rule 506 of Regulation D as promulgated by the United States Securities and Exchange Commission (the "SEC") under the Securities Act; and;

B. The Purchasers wish to purchase from the Company, and the Company wishes to sell and issue to the Purchasers, upon the terms and subject to the conditions stated in this Agreement, shares (the "Shares") of the Company's preferred stock, par value \$0.01 per share (the "Preferred Stock"), that are convertible into shares of the Company's common stock, \$0.01 par value per share (the "Common Stock"); and

C. Contemporaneously with the sale of the Shares hereunder, the parties hereto will execute and deliver a Registration Rights Agreement, in the form attached hereto as Exhibit A (the "Registration Rights Agreement"), pursuant to which the Company will agree to provide certain registration rights in respect of the Shares under the Securities Act, and the rules and regulations promulgated thereunder, and applicable state securities laws.

In consideration of the mutual promises made herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

ARTICLE I.
DEFINITIONS

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1.1:

"Acquiring Person" shall have the meaning ascribed to such term in Section 4.5.

"Action" shall have the meaning ascribed to such term in Section 3.1(j).

"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.

1

"Ballard" means Ballard Spahr LLP, with offices located at 1735 Market Street, 51st Floor, Philadelphia, PA 19103-7599.

"Board of Directors" means the board of directors of the Company.

"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 the State of New York are authorized or required by law or other governmental action to close.

"Closing" means the closing of the purchase and sale of the Shares pursuant to Section 2.1.

"Closing Date" means the Trading Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto, and all conditions precedent to (i) the Purchasers' obligations to pay the Subscription Amount and (ii) the Company's obligations to deliver the Shares, in each case, have been satisfied or waived, but in no event later than the second (2nd) Trading Day following the date hereof.

"Commission" means the United States Securities and Exchange Commission.

"Common Stock" means the common stock of the Company, par value \$0.01 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

"Common Stock Equivalents" means any securities of the Company or the 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.

"Company Counsel" means Morgan, Lewis & Bockius LLP, with offices located at One Federal Street, Boston, Massachusetts 02110.

"Disclosure Schedules" means the disclosure schedules of the Company delivered concurrently herewith.

"Disclosure Time" means, (i) if this Agreement is signed on a day that is not a Trading Day or after 9:00 a.m. (New York City time) and before midnight (New York City time) on any Trading Day, 9:01 a.m. (New York City time) on the Trading Day immediately following the date hereof, and (ii) if this Agreement is signed between midnight (New York City time) and 9:00 a.m. (New York City time) on any Trading Day, no later than 9:01 a.m. (New York City time) on the date hereof.

"Escrow Agent" means Wilmington Trust, National Association.

"Escrow Agreement" means the escrow agreement entered into prior to the date hereof, by and among the Company, the Escrow Agent, and holder representative pursuant to which the Purchasers shall deposit Subscription Amounts and the Company shall deposit the difference between the Subscription Amounts and the aggregate Redemption Consideration (as defined in the Series A Certificate of Designation and Series B Certificate of Designation) with the Escrow Agent to be applied to the transactions contemplated hereunder.

2

"Evaluation Date" shall have the meaning ascribed to such term in Section 3.1(s).

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exempt Issuance” means the issuance of (a) shares of Common Stock or options or other awards to employees, officers, service providers or directors of the Company pursuant to any stock or option plan or arrangement duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company (or shares of Common Stock issued upon exercise of any such options or awards), (b) securities upon the exercise or exchange of or conversion of any Shares issued hereunder and/or other securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations), (c) securities in connection with the acquisition or license by the Company of the securities, business, property, technology or other assets of another person or business entity or pursuant to any employee benefit plan assumed by the Company in connection with any such acquisition, and (d) securities in connection with any merger, joint venture, strategic alliance, commercial or other collaborative transaction; provided that, in the case of immediately preceding clauses (c) and (d), the aggregate number of securities issued in connection with all such acquisitions and other transactions does not exceed 10% of the number of shares outstanding on a fully diluted basis after giving effect to the consummation of the offering pursuant to this Agreement.

“FCPA” means the Foreign Corrupt Practices Act of 1977, as amended.

“FDA” shall have the meaning ascribed to such term in Section 3.1(gg).

“FDCA” shall have the meaning ascribed to such term in Section 3.1(gg).

“GAAP” shall have the meaning ascribed to such term in Section 3.1(h).

“Indebtedness” shall have the meaning ascribed to such term in Section 3.1(ll).

“Intellectual Property Rights” shall have the meaning ascribed to such term in Section 3.1(p).

3

“Issuer Covered Person” means the Company, any of its predecessors, any affiliated issuer, nor, to its knowledge, any director, executive officer, other officer of the Company participating in the offering hereunder, any beneficial owner of 20% or more of the Company’s outstanding voting equity securities, calculated on the basis of voting power, nor any promoter (as that term is defined in Rule 405 under the Securities Act) connected with the Company in any capacity at the time of sale.

“Liens” means a lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

“Material Adverse Effect” shall have the meaning assigned to such term in Section 3.1(b).

“Material Permits” shall have the meaning ascribed to such term in Section 3.1(n).

“Per Share Purchase Price” equals, with respect to each share of Series A Stock and each share of Series B Stock, \$19.00 per share, subject, in each case, to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

“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.

“Pharmaceutical Product” shall have the meaning ascribed to such term in Section 3.1(gg).

“Placement Agent” means A.G.P./Alliance Global Partners.

“Placement Agent Agreement” means that certain placement agent agreement dated as of the date hereof between the Company and the Placement Agent.

“Preferred Stock” means the Series A Stock and Series B Stock of the Company, each par value \$0.01 per share.

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition) pending or, to the Company’s knowledge, threatened in writing against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign).

“Purchase Price” means, as to each Purchaser, the aggregate dollar amount to be paid for Shares purchased hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Purchase Price,” in United States dollars and in immediately available funds.

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.7.

4

“Registration Rights Agreement” shall have the meaning ascribed to such term in the recitals.

“Required Approvals” shall have the meaning ascribed to such term in Section 3.1(e).

“Required Minimum” means, as of any date, the maximum aggregate number of shares of Common Stock then issued or potentially issuable in the future pursuant to the Transaction Documents, including the conversion in full of all shares of Preferred Stock, ignoring any conversion or exercise limits set forth therein.

“Reverse Stock Split” means a reverse stock split of the outstanding shares of Common Stock that is effected by the Company’s filing of an amendment to its certificate of incorporation with the Secretary of State of the State of Delaware and the acceptance thereof.

“Reverse Stock Split Amendment” means the amendment to the Company’s certificate of incorporation that effects the Reverse Stock Split.

“Reverse Stock Split Date” means the date on which the Reverse Stock Split Amendment is filed with the State of Delaware and that Reverse Stock Split is consummated and deemed effective by the State of Delaware.

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 424” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“SEC Reports” shall have the meaning ascribed to such term in Section 3.1(h).

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Series A Certificate of Designation” means the certificate of designation for the Series A Stock to be filed with the State of Delaware.

“Series A Stock” means the Company’s Series A Convertible Redeemable Preferred Stock, stated value \$20.00 per share.

“Series B Certificate of Designation” means the certificate of designation for the Series B Stock to be filed with the State of Delaware.

5

“Series B Stock” means the Company’s Series B Convertible Redeemable Preferred Stock, stated value \$20.00 per share.

“Shares” means the shares of Preferred Stock issued or issuable to each Purchaser pursuant to this Agreement.

“Short Sales” means all “short sales” as defined in Rule 200 of Regulation SHO under the Exchange Act (but shall not be deemed to include locating and/or borrowing shares of Common Stock).

“Stockholder Approval” means the Company’s stockholders approval of the Reverse Stock Split, pursuant to the Delaware General Corporation Law.

“Subscription Amount” means, as to each Purchaser, the aggregate dollar amount of Shares purchased hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsidiary” means any subsidiary of the Company as set forth on Schedule 3.1(a), and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“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, the New York Stock Exchange (or any successors to any of the foregoing).

“Transaction Documents” means this Agreement, the Registration Rights Agreement, the Escrow Agreement, the Series A Certificate of Designation, the Series B Certificate of Designation, and all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated hereunder.

“Transfer Agent” means American Stock Transfer & Trust Company, LLC, the current transfer agent of the Company, with a mailing address of 6201 15th Avenue, Brooklyn, New York 11219, and any successor transfer agent of the Company.

ARTICLE II. PURCHASE AND SALE

2.1 Closing. On the Closing Date, upon the terms and subject to the conditions set forth herein, the Company agrees to issue and sell, and the Purchasers, severally and not jointly, agree to purchase, 1,000,006 shares of Series A Stock and 250,005 shares of Series B Stock. The Purchase Price as set forth on the signature page hereto executed by each Purchaser shall be made available for “Delivery Versus Payment” settlement with the Company or its designees as described below. The Company shall deliver to each Purchaser its Shares as determined pursuant to Section 2.2(a), and the Company and each Purchaser shall deliver the other items set forth in Section 2.2 deliverable at the Closing. Upon satisfaction of the covenants and conditions set forth in Sections 2.2 and 2.3, the Closing shall occur at the offices of Ballard or such other location as the parties shall mutually agree. Unless otherwise directed by the Placement Agent, settlement of the Shares shall occur via “Delivery Versus Payment (i.e., on the Closing Date, the Company shall issue the Shares registered in the Purchasers’ names and addresses and released by the Transfer Agent or the Company directly to the account(s) at the Placement Agent identified by each Purchaser; upon receipt of such Shares, the Placement Agent shall promptly electronically deliver such Shares to the applicable Purchaser, and payment therefor shall be made by the Placement Agent (or its clearing firm) by wire transfer to the Escrow Agent).

6

2.2 Deliveries.

(a) On or prior to the Closing Date, the Company shall deliver or cause to be delivered to each Purchaser the following:

- (i) this Agreement duly executed by the Company;
- (ii) a legal opinion of Company Counsel, in a form reasonably acceptable to the Purchaser and the Placement Agent;
- (iii) the Company shall have provided each Purchaser with the Escrow Agent’s wire instructions, on Company letterhead and executed by the Company’s Chief Executive Officer or Chief Financial Officer;
- (iv) the Registration Rights Agreement duly executed by the Company;
- (v) the Escrow Agreement duly executed by the Company and the Escrow Agent;
- (vi) a certificate executed by the Chief Executive Officer or Chief Financial Officer of the Company, dated as of the Closing Date, in form and substance reasonably acceptable to the Purchaser and Placement Agent;
- (vii) a certificate executed by the Secretary of the Company, dated as of the Closing Date, in form and substance reasonably acceptable to the Purchaser and Placement Agent;
- (viii) at the Purchaser’s election, (a) a stock certificate in the name of the Purchaser representing the Shares or (b) a certified copy of the Company’s

book entry ledger containing entries showing the Purchaser is recorded as the owner of the Shares; and

(ix) evidence of the filing with the State of Delaware of the Series A Certificate of Designation and the Series B Certificate of Designation.

7

(b) On or prior to the Closing Date, each Purchaser shall deliver or cause to be delivered to the Company the following:

(i) this Agreement duly executed by such Purchaser; and

(ii) such Purchaser's Purchase Price by wire transfer to the account specified in the Escrow Agreement.

2.3 Closing Conditions.

(a) The obligations of the Company hereunder in connection with the Closing are subject to the following conditions being met:

(i) the accuracy in all material respects (or, to the extent representations or warranties are qualified by materiality or Material Adverse Effect, in all respects) when made and on the Closing Date of the representations and warranties of the Purchasers contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

(ii) all obligations, covenants and agreements of each Purchaser required to be performed at or prior to the Closing Date shall have been performed; and

(iii) the delivery by each Purchaser of the items set forth in Section 2.2(b) of this Agreement.

(b) The respective obligations of the Purchasers hereunder in connection with the Closing are subject to the following conditions being met:

(i) the accuracy in all material respects (or, to the extent representations or warranties are qualified by materiality or Material Adverse Effect, in all respects) when made and on the Closing Date of the representations and warranties of the Company contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

(ii) all obligations, covenants and agreements of the Company required to be performed at or prior to the Closing Date shall have been performed in all material respects;

(iii) the delivery by the Company of the items set forth in Section 2.2(a) of this Agreement;

(iv) the Company shall have filed with the State of Delaware, and the State of Delaware shall have provided evidence of acceptance of, the Series A Certificate of Designation and the Series B Certificate of Designation;

(v) there shall have been no Material Adverse Effect with respect to the Company since the date hereof; and

(vi) from the date hereof to the Closing Date, trading in the Common Stock shall not have been suspended by the Commission or the Company's principal Trading Market, and, at any time prior to the Closing Date, trading in securities generally as reported by Bloomberg L.P. shall not have been suspended or limited, or minimum prices shall not have been established on securities whose trades are reported by such service, or on any Trading Market, nor shall a banking moratorium have been declared either by the United States or New York State authorities nor shall there have occurred any material outbreak or escalation of hostilities or other national or international calamity of such magnitude in its effect on, or any material adverse change in, any financial market which, in each case, in the reasonable judgment of such Purchaser, makes it impracticable or inadvisable to purchase the Shares at the Closing.

8

ARTICLE III. REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. Except as set forth in the Disclosure Schedules, which Disclosure Schedules shall be deemed a part hereof and shall qualify any representation or warranty otherwise made herein to the extent of the disclosure contained in the corresponding section of the Disclosure Schedules, the Company hereby makes the following representations and warranties to each Purchaser:

(a) Subsidiaries. All of the direct and indirect subsidiaries of the Company are set forth on Schedule 3.1(a). The Company owns, directly or indirectly, all of the capital stock or other equity interests of each Subsidiary free and clear of any Liens, and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of preemptive and similar rights to subscribe for or purchase securities.

(b) Organization and Qualification. Each of the Company and the Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and the Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, would not have or reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document, (ii) a material adverse effect on the results of operations, assets, business, or financial condition of the Company and the Subsidiaries, taken as a whole, or (iii) a material adverse effect on the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a "Material Adverse Effect"); provided that a change in the market price or trading volume of the Common Stock alone shall not be deemed, in and of itself, to constitute a Material Adverse Effect. No Proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

9

(c) Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and each of the other Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. Subject to the Stockholder Approval, the execution and delivery of this Agreement and each of the other Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Board of Directors or the Company's stockholders in connection herewith or therewith other than in connection with the Required Approvals (as defined below). This Agreement

and each other Transaction Document to which it is a party has been (or upon delivery will have been) duly executed by the Company and, when delivered in accordance with the terms hereof and thereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(d) No Conflicts. Subject to the Stockholder Approval, the execution, delivery and performance by the Company of this Agreement and the other Transaction Documents to which it is a party, the issuance and sale of the Shares and the consummation by it of the transactions contemplated hereby and thereby do not and will not (i) conflict with or violate any provision of the Company's or any Subsidiary's certificate or articles of incorporation, bylaws or other organizational or charter documents, or (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any Lien upon any of the properties or assets of the Company or any Subsidiary, or give to others any rights of termination, amendment, anti-dilution or similar adjustments, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing a Company or Subsidiary debt or otherwise) or other understanding to which the Company or any Subsidiary is a party or by which any property or asset of the Company or any Subsidiary is bound or affected, or (iii) subject to the Required Approvals (as defined below), conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company or a Subsidiary is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company or a Subsidiary is bound or affected; except in the case of each of clauses (ii) and (iii), such as would not have or reasonably be expected to result in a Material Adverse Effect.

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filing of the Series A Certificate of Designation and Series B Certificate of Designation, (ii) filings pursuant to applicable state and federal securities laws, and (iii) the registration statement required to be filed by the Registration Rights Agreement (collectively, the "Required Approvals").

10

(f) Issuance of the Shares. The Shares have been duly authorized and, subject to the Stockholder Approval, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company, except for restrictions on transfer set forth in the Transaction Documents or imposed by applicable securities laws. Subject to the Stockholder Approval and the consummation of the Reverse Stock Split, the Company has reserved from its duly authorized capital stock the maximum number of shares of Common Stock issuable pursuant to this Agreement. The Company is eligible to use Form S-3 under the Securities Act.

(g) Capitalization. The Company has an authorized and outstanding capitalization as set forth in its Annual Report on Form 10-K for the fiscal year ended December 31, 2021 (the "Form 10-K") as of the dates set forth therein. The Company has not issued any capital stock since its most recently filed periodic report under the Exchange Act other than pursuant to the exercise of employee stock options under the Company Stock Plans (as defined below). The shares of Common Stock outstanding prior to the issuance of the Shares have been duly authorized and are validly issued, fully paid and non-assessable. Except as described in Schedule 3.1(g), there are no options, warrants, agreements, contracts or other rights in existence to purchase or acquire from the Company or any Subsidiary of the Company any shares of the capital stock of the Company or any Subsidiary of the Company, subject to the grant of options consistent with past practices. No Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents. The description of the Company's stock option, stock bonus and other stock plans or arrangements (the "Company Stock Plans"), and the options (the "Options") or other rights granted thereunder, set forth in the SEC Reports accurately and fairly presents in all material respects the information required to be shown with respect to such plans, arrangements, options and rights. Each grant of an Option (A) was duly authorized no later than the date on which the grant of such Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required shareholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto and (B) was made in accordance with the terms of the applicable Company Stock Plan, and all applicable laws and regulatory rules or requirements, including all applicable federal securities laws. The issuance and sale of the Shares will not obligate the Company or any Subsidiary to issue shares of Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. There are not outstanding securities or instruments of the Company or any Subsidiary that contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to redeem a security of the Company or such Subsidiary. Except as disclosed in Schedule 3.1(g), there are no stockholder agreements, voting agreements or other similar agreements with respect to the Company's capital stock to which the Company is a party or, to the Company's knowledge, between or among any of the Company's stockholders.

11

(h) SEC Reports; Financial Statements. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the two years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including all exhibits thereto and documents incorporated by reference therein being collectively referred to herein as the "SEC Reports") on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of such extension. At the time of filing thereof, the SEC Reports complied in all material respects with the requirements of the Securities Act or the Exchange Act, as applicable, and did not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The Company has never been a shell corporation as defined in Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports complied in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved ("GAAP"), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments. The agreements and documents described in the SEC Reports conform in all material aspects to the descriptions thereof contained therein and there are no agreements or other documents required by the Securities Act and the rules and regulations thereunder to be described in the SEC Reports, that have not been so described or filed. Each agreement or other instrument (however characterized or described) to which the Company is a party or by which it is or may be bound or affected and that is referred to in the SEC Reports and is material to the Company's business (each, a "Material Agreement"), has been duly authorized and validly executed by the Company, is in full force and effect in all material respects and is enforceable against the Company and, to the Company's knowledge, the other parties thereto, in accordance with its terms, except (x) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally, (y) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws, and (z) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefore may be brought. No Material Agreement has been assigned by the Company, and neither the Company nor, to the best of the Company's knowledge, any other party is in default thereunder and, to the Company's knowledge, no event has occurred that, with the lapse of time or the giving of notice, or both, would constitute a default thereunder that has had or that could reasonably be expected to result in a Material Adverse Effect. To the Company's knowledge, performance by the Company of the material provisions of the Material Agreements will not result in a violation of any existing applicable law, rule, regulation, judgment, order or decree of any governmental agency or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses, including,

(i) Material Changes: Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports (i) there has been no event, occurrence or development that has had or that would reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any material liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company's financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company equity compensation or stock option plans. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Shares contemplated by this Agreement, no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, prospects, properties, operations, assets or financial condition that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least 1 Trading Day prior to the date that this representation is made.

(j) Litigation. Except as disclosed in the SEC Reports, there is no material action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the Company's knowledge, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an "Action"). None of the Actions set forth in the SEC Reports adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Shares or would, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Securities Act.

(k) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which would reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement. To the Company's knowledge, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. The Company and its Subsidiaries are in compliance with all applicable U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(l) Compliance. Neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority or (iii) is or has been in violation of any applicable statute, rule, ordinance or regulation of any governmental authority, including without limitation all applicable foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and labor matters, except in each case as would not have or reasonably be expected to result in a Material Adverse Effect.

(m) Environmental Laws. The Company and its Subsidiaries (i) are in material compliance with all applicable federal, state, local and foreign laws relating to pollution or protection of human health or the environment (including ambient air, surface water, groundwater, land surface or subsurface strata), including laws relating to emissions, discharges, releases or threatened releases of chemicals, pollutants, contaminants, or toxic or hazardous substances or wastes (collectively, "Hazardous Materials") into the environment, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials, as well as all authorizations, codes, decrees, demands, or demand letters, injunctions, judgments, licenses, notices or notice letters, orders, permits, plans or regulations, issued, entered, promulgated or approved thereunder ("Environmental Laws"); (ii) have received all permits licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses; and (iii) are in compliance with all terms and conditions of any such permit, license or approval where in each clause (i), (ii) and (iii), the failure to so comply would be reasonably expected to have, individually or in the aggregate, a Material Adverse Effect.

(n) Regulatory Permits. The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct their respective businesses as described in the SEC Reports, except where the failure to possess such permits would not reasonably be expected to result in a Material Adverse Effect ("Material Permits"), and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any Material Permit.

(o) Title to Assets. The Company and the Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and the Subsidiaries, in each case free and clear of all Liens, except for (i) Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries, and (ii) Liens for the payment of federal, state or other taxes, for which appropriate reserves have been made therefor in accordance with GAAP and, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the Subsidiaries are in compliance, except where the failure to be in compliance would not reasonably be expected to have a Material Adverse Effect.

(p) Intellectual Property. The Company and the Subsidiaries have, or have rights to use, all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses and other intellectual property rights and similar rights necessary or required for use in connection with their respective businesses as described in the SEC Reports and which the failure to so have would have a Material Adverse Effect (collectively, the "Intellectual Property Rights"). None of, and neither the Company nor any Subsidiary has received a written notice that any of, the Intellectual Property Rights has expired, terminated or been abandoned, or is expected to expire or terminate or be abandoned, within two (2) years from the date of this Agreement. Neither the Company nor any Subsidiary has received, since the date of the latest audited financial statements included within the SEC Reports, a written notice of a claim or otherwise has any knowledge that the Intellectual Property Rights violate or infringe upon the rights of any Person, except as would not have or reasonably be expected to not have a Material Adverse Effect. To the knowledge of the Company, all such Intellectual Property Rights are enforceable and there is no existing infringement by

another Person of any of the Intellectual Property Rights. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their intellectual properties, except where failure to do so would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The Company has no knowledge of any facts that would preclude it from having valid license rights or clear title to the Intellectual Property Rights. The Company has no knowledge that it lacks or will be unable to obtain any rights or licenses to use all Intellectual Property Rights that are necessary to conduct its business.

(q) Insurance. The Company and the Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which the Company and the Subsidiaries are engaged, including, but not limited to, directors and officers insurance coverage.

(r) Transactions With Affiliates and Employees. Except as disclosed in Schedule 3.1(r), none of the officers or directors of the Company or any Subsidiary and, to the Company's knowledge, none of the employees of the Company or any Subsidiary is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, providing for the borrowing of money from or lending of money to or otherwise requiring payments to or from any officer, director or such employee or, to the Company's knowledge, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee, stockholder, member or partner, in each case in excess of \$120,000 other than for (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(s) Sarbanes-Oxley: Internal Accounting Controls. The Company and the Subsidiaries are in compliance in all material respects with the applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date. The Company and the Subsidiaries 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 authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company and the Subsidiaries have established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and the Subsidiaries and designed such disclosure controls and procedures to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms. The Company's certifying officers have evaluated the effectiveness of the disclosure controls and procedures of the Company and the Subsidiaries as of the end of the period covered by the most recently filed periodic report under the Exchange Act (such date, the "Evaluation Date"). The Company presented in its most recently filed periodic report under the Exchange Act the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no changes in the internal control over financial reporting (as such term is defined in the Exchange Act) of the Company and its Subsidiaries that have materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of the Company and its Subsidiaries.

(t) Certain Fees. Except to the Placement Agent, no brokerage or finder's fees or commissions are or will be payable by the Company or any Subsidiary to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. The Purchasers shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section that may be due in connection with the transactions contemplated by the Transaction Documents.

(u) Investment Company. The Company is not, and is not an Affiliate of, and immediately after receipt of payment for the Shares, will not be or be an Affiliate of, an "investment company" within the meaning of the Investment Company Act of 1940, as amended.

(v) Registration Rights. Except as described in Schedule 3.1(v) and as provided in the Registration Rights Agreement, no Person has any right to cause the Company or any Subsidiary to effect the registration under the Securities Act of any securities of the Company or any Subsidiary.

(w) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. Except as described in Schedule 3.1(w), the Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. Except as disclosed in Schedule 3.1(w), the Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer.

(x) Application of Takeover Protections. The Company and its Board of Directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Company's certificate of incorporation (or similar charter documents) or the laws of its state of incorporation that is or could become applicable to the Purchasers as a result of the Purchasers and the Company fulfilling their obligations or exercising their rights under the Transaction Documents, including without limitation as a result of the Company's issuance of the Shares and the Purchasers' ownership of the Shares.

(y) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, the Company confirms that neither it nor, to the Company's knowledge, any other Person acting on its behalf has provided any of the Purchasers or their agents or counsel with any information that it believes constitutes or might constitute material, nonpublic information which is not otherwise disclosed in the SEC Reports on or prior to the Closing Date. The Company understands and confirms that the Purchasers will rely on the foregoing representation in effecting transactions in securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Purchasers regarding the Company and its Subsidiaries, their respective businesses and the transactions contemplated hereby, including the Disclosure Schedules to this Agreement, is true and correct in all material respects and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The press releases disseminated by the Company during the twelve months preceding the date of this Agreement taken as a whole do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made and when made, not misleading. The Company acknowledges and agrees that no Purchaser makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3.2 hereof.

(z) No Integrated Offering. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3.2, neither the Company, nor any of

its Affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Shares to be integrated with prior offerings by the Company for purposes of any applicable shareholder approval provisions of any Trading Market on which any of the securities of the Company are listed or designated.

(aa) Tax Status. The Company and its Subsidiaries each (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, whether or not shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

18

(bb) Foreign Corrupt Practices. Neither the Company nor any Subsidiary, nor to the Company's knowledge, any agent or other person acting on behalf of the Company or any Subsidiary, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company or any Subsidiary (or made by any person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of FCPA.

(cc) Accountants. The Company's independent registered public accounting firm is set forth in the SEC Reports. To the Company's knowledge, such accounting firm (i) is a registered public accounting firm as required by the Exchange Act and (ii) has expressed its opinion with respect to the financial statements included in the Company's Annual Report for the fiscal year ended December 31, 2021.

(dd) Acknowledgment Regarding Purchasers' Purchase of Shares. The Company acknowledges and agrees that each of the Purchasers is acting solely in the capacity of an arm's length purchaser with respect to the Transaction Documents and the transactions contemplated thereby. The Company further acknowledges that no Purchaser is acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated thereby and any advice given by any Purchaser or any of their respective representatives or agents in connection with the Transaction Documents and the transactions contemplated thereby is merely incidental to the Purchasers' purchase of the Shares. The Company further represents to each Purchaser that the Company's decision to enter into this Agreement and the other Transaction Documents has been based solely on the independent evaluation of the transactions contemplated hereby by the Company and its representatives.

(ee) Acknowledgment Regarding Purchaser's Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(e) and 4.14 hereof), it is understood and acknowledged by the Company that: (i) none of the Purchasers has been asked by the Company to agree, nor has any Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or "derivative" securities based on securities issued by the Company or to hold the Shares for any specified term; (ii) past or future open market or other transactions by any Purchaser, specifically including, without limitation, Short Sales or "derivative" transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company's publicly-traded securities; (iii) any Purchaser, and counter-parties in "derivative" transactions to which any such Purchaser is a party, directly or indirectly, presently may have a "short" position in the Common Stock; and (iv) each Purchaser shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that (y) one or more Purchasers may engage in hedging activities (in material compliance with applicable laws) at various times during the period that the Shares are outstanding, and (z) such hedging activities (if any) could reduce the value of the existing stockholders' equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities do not constitute a breach of any of the Transaction Documents.

19

(ff) Regulation M Compliance. The Company has not, and to the Company's knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Shares, (ii) sold, bid for, purchased, or paid any compensation for soliciting purchases of, any of the Shares, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company, other than, in the case of clauses (ii) and (iii), compensation paid to the Placement Agent in connection with the placement of the Shares.

(gg) FDA. As to each product subject to the jurisdiction of the U.S. Food and Drug Administration ("FDA") under the Federal Food, Drug and Cosmetic Act, as amended, and the regulations thereunder ("FDCA") that is manufactured, packaged, labeled, tested and/or distributed by the Company or any of its Subsidiaries (each such product, a "Pharmaceutical Product"), such Pharmaceutical Product is being manufactured, packaged, labeled, tested and/or distributed by the Company in compliance with all applicable requirements under FDCA and similar laws, rules and regulations relating to registration, investigational use, licensure, or application approval, good manufacturing practices, good laboratory practices, good clinical practices, product listing, quotas, labeling, advertising, record keeping and filing of reports, except where the failure to be in compliance would not have a Material Adverse Effect. Except as set forth in Schedule 3.1(gg), there is no pending, completed or, to the Company's knowledge, threatened, action (including any lawsuit, arbitration, or legal or administrative or regulatory proceeding, charge, complaint, or investigation) against the Company or any of its Subsidiaries, and none of the Company or any of its Subsidiaries has received any notice, warning letter or other communication from the FDA or any other governmental entity, which (i) contests the licensure, registration, or approval of, the uses of, the distribution of, the manufacturing or packaging of, the testing of, the sale of, or the labeling and promotion of any Pharmaceutical Product, (ii) withdraws its approval of, requests the recall, suspension, or seizure of, or withdraws or orders the withdrawal of advertising or sales promotional materials relating to, any Pharmaceutical Product, (iii) imposes a clinical hold on any clinical investigation by the Company or any of its Subsidiaries, (iv) enjoins production at any facility of the Company or any of its Subsidiaries, (v) enters or proposes to enter into a consent decree of permanent injunction with the Company or any of its Subsidiaries, or (vi) otherwise alleges any violation of any laws, rules or regulations by the Company or any of its Subsidiaries, and which, either individually or in the aggregate, would have a Material Adverse Effect. The properties, business and operations of the Company have been and are being conducted in all material respects in accordance with all applicable laws, rules and regulations of the FDA. The Company has not been informed by the FDA that the FDA will prohibit the marketing, sale, license or use in the United States of any product proposed to be developed, produced or marketed by the Company nor has the FDA expressed any concern as to approving or clearing for marketing any product being developed or proposed to be developed by the Company.

20

(hh) Stock Option Plans. Each stock option granted by the Company under the Company's stock option plan was granted (i) in accordance with the terms of the Company's stock option plan and (ii) with an exercise price at least equal to the fair market value of the Common Stock on the date such stock option would be considered granted under GAAP and applicable law. No stock option granted under the Company's stock option plan has been backdated. The Company has not knowingly granted, and there is no and has been no Company policy or practice to knowingly grant, stock options prior to, or otherwise knowingly coordinate the grant of stock options with, the release or other public announcement of material information regarding the Company or its Subsidiaries or their financial results or prospects.

(ii) Office of Foreign Assets Control. Neither the Company nor any Subsidiary nor, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any Subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury

Department (“OFAC”).

(jj) Anti-Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the “Anti-Money Laundering Laws”), and no Action or Proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the Company’s knowledge, threatened in writing.

(kk) Other Covered Persons. Other than the Placement Agent, the Company is not aware of any person (other than any Issuer Covered Person) that has been or will be paid (directly or indirectly) remuneration for solicitation of purchasers in connection with the sale of any Shares.

(ll) Solvency. Based on the consolidated financial condition of the Company as of the Closing Date, after giving effect to the receipt by the Company of the proceeds from the sale of the Shares hereunder, (i) the fair saleable value of the Company’s assets exceeds the amount that will be required to be paid on or in respect of the Company’s existing debts and other liabilities (including known contingent liabilities) as they mature, (ii) the Company’s assets do not constitute unreasonably small capital to carry on its business as now conducted and as proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, consolidated and projected capital requirements and capital availability thereof, and (iii) the current cash flow of the Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, would be sufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). The Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date. Schedule 3.1(l) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, “Indebtedness” means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company’s consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

21

(mm) Regarding Purchaser’s Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(f) and 4.13 hereof), it is understood and acknowledged by the Company that: (i) none of the Purchasers has been asked by the Company to agree, nor has any Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or “derivative” securities based on securities issued by the Company or to hold the Shares for any specified term, (ii) past or future open market or other transactions by any Purchaser, specifically including, without limitation, Short Sales or “derivative” transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company’s publicly-traded securities, (iii) any Purchaser, and counter-parties in “derivative” transactions to which any such Purchaser is a party, directly or indirectly, presently may have a “short” position in the Common Stock and (iv) each Purchaser shall not be deemed to have any affiliation with or control over any arm’s length counter-party in Acknowledgment any “derivative” transaction. The Company further understands and acknowledges that (y) one or more Purchasers may engage in hedging activities at various times during the period that the Shares are outstanding, and (z) such hedging activities (if any) could reduce the value of the existing stockholders’ equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities do not constitute a breach of any of the Transaction Documents.

(nn) Cybersecurity. (i) There has been no security breach or other compromise of or relating to any of the Company’s or any Subsidiary’s information technology and computer systems, networks, hardware, software, data (including the data of its respective customers, employees, suppliers, vendors and any third party data maintained by or on behalf of it), equipment or technology (collectively, “IT Systems and Data”) and (y) the Company and the Subsidiaries have not been notified of, and has no knowledge of any event or condition that would reasonably be expected to result in, any security breach or other compromise to its IT Systems and Data; (ii) the Company and the Subsidiaries are presently in 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 Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification, except as would not, individually or in the aggregate, have a Material Adverse Effect; (iii) the Company and the Subsidiaries have implemented and maintained commercially reasonable safeguards to maintain and protect its material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and Data; and (iv) the Company and the Subsidiaries have implemented backup and disaster recovery technology consistent with industry standards and practices.

22

(oo) Subsidiary Rights. The Company has the unrestricted right to vote, and (subject to limitations imposed by applicable law) to receive dividends and distributions on, all capital securities of its Subsidiaries as owned by the Company or any Subsidiary of the Company.

(pp) Promotional Stock Activities. Neither the Company nor any Subsidiary of the Company and none of their respective officers, directors, managers, affiliates or agents have engaged in any stock promotional activity that could give rise to a complaint, inquiry, or trading suspension by the SEC alleging (i) a violation of the anti-fraud provisions of the federal securities laws, (ii) violations of the anti-touting provisions, (iii) improper “gun-jumping; or (iv) promotion without proper disclosure of compensation.

(qq) No Cash Payments. Except as disclosed on the Disclosure Schedules, neither the Company, its officers, or any Affiliates or agents of the Company have withdrawn or paid cash (not including a check or other similar negotiable instrument) to any vendor in an aggregate amount that exceeds Five Thousand Dollars (\$5,000) for any purpose.

3.2 Representations and Warranties of the Purchasers. Each Purchaser, for itself and for no other Purchaser, hereby represents and warrants as of the date hereof and as of the Closing Date to the Company as follows (unless as of a specific date therein, in which case they shall be accurate as of such date):

(a) Organization; Authority. Such Purchaser is either an individual or an entity duly incorporated or formed, validly existing and in good standing under the laws of the jurisdiction of its incorporation or formation with full right, corporate, partnership, limited liability company or similar power and authority to enter into and to consummate the transactions contemplated by the Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of the Transaction Documents and performance by such Purchaser of the transactions contemplated by the Transaction Documents have been duly authorized by all necessary corporate, partnership, limited liability company or similar action, as applicable, on the part of such Purchaser. Each Transaction Document to which it is a party has been duly executed by such Purchaser, and when delivered by such Purchaser in accordance with the terms hereof, will constitute the valid and legally binding obligation of such Purchaser, enforceable against it in accordance with its terms, except: (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors’ rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(b) Understandings or Arrangements. Such Purchaser is acquiring the Shares as principal for its own account and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Shares (this representation and warranty not limiting such Purchaser's right to sell the Shares or otherwise in compliance with applicable federal and state securities laws). Such Purchaser is acquiring such Shares as principal for his, her or its own account and not with a view to or for distributing or reselling such Shares or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Shares in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Shares in violation of the Securities Act or any applicable state securities law (this representation and warranty not limiting such Purchaser's right to sell such Shares pursuant to a registration statement or otherwise in compliance with applicable federal and state securities laws).

(c) Purchaser Status. At the time such Purchaser was offered the Shares, it was, and as of the date hereof it is, either: (i) an "accredited investor" as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act or (ii) a "qualified institutional buyer" as defined in Rule 144A(a) under the Securities Act.

(d) Experience of Such Purchaser. Such Purchaser, either alone or together with its representatives, has such knowledge, sophistication and experience in business and financial matters so as to be capable of evaluating the merits and risks of the prospective investment in the Shares, and has so evaluated the merits and risks of such investment. Such Purchaser is able to bear the economic risk of an investment in the Shares and, at the present time, is able to afford a complete loss of such investment.

(e) Access to Information. Such Purchaser acknowledges that it has had the opportunity to review the Transaction Documents (including all exhibits and schedules thereto) and the SEC Reports and has been afforded, (i) the opportunity to ask such questions as it has deemed necessary of, and to receive answers from, representatives of the Company concerning the terms and conditions of the offering of the Shares and the merits and risks of investing in the Shares; (ii) access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to the investment. Such Purchaser acknowledges and agrees that neither the Placement Agent nor any Affiliate of the Placement Agent has provided such Purchaser with any information or advice with respect to the Shares nor is such information or advice necessary or desired. Neither the Placement Agent nor any Affiliate has made or makes any representation as to the Company or the quality of the Shares and the Placement Agent and any Affiliate may have acquired non-public information with respect to the Company which such Purchaser agrees need not be provided to it. In connection with the issuance of the Shares to such Purchaser, neither the Placement Agent nor any of its Affiliates has acted as a financial advisor or fiduciary to such Purchaser.

(f) Certain Transactions and Confidentiality. Other than consummating the transactions contemplated hereunder, such Purchaser has not, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser, directly or indirectly executed any purchases or sales, including Short Sales, of the securities of the Company during the period commencing as of the time that such Purchaser first received a term sheet (written or oral) from the Company or any other Person representing the Company setting forth the material terms of the transactions contemplated hereunder and ending immediately prior to the execution hereof. Notwithstanding the foregoing, in the case of a Purchaser that is a multi-managed investment vehicle whereby separate portfolio managers manage separate portions of such Purchaser's assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of such Purchaser's assets, the representation set forth above shall only apply with respect to the portion of assets managed by the portfolio manager that made the investment decision to purchase the Shares covered by this Agreement. Other than to other Persons party to this Agreement or to such Purchaser's representatives, including, without limitation, its officers, directors, partners, legal and other advisors, employees, agents and Affiliates, such Purchaser has maintained the confidentiality of all disclosures made to it in connection with this transaction (including the existence and terms of this transaction). Notwithstanding the foregoing, for the avoidance of doubt, nothing contained herein shall constitute a representation or warranty against, or a prohibition of, any actions with respect to the borrowing of, arrangement to borrow, identification of the availability of, and/or securing of, securities of the Company in order for such Purchaser (or its broker or other financial representative) to effect Short Sales or similar transactions in the future.

(g) General Solicitation. Such Purchaser is not purchasing the Shares as a result of any advertisement, article, notice or other communication regarding the Shares published in any newspaper, magazine or similar media or broadcast over television or radio or presented at any seminar or, to the knowledge of such Purchaser, any other general solicitation or general advertisement.

(h) No Government Recommendation or Approval. Such Purchaser understands that no United States federal or state agency, or similar agency of any other country, has reviewed, approved, passed upon, or made any recommendation or endorsement of the Company or the purchase of the Shares.

(i) No Intent to Effect a Change of Control; Ownership. Such Purchaser has no present intent to effect a "change of control" of the Company as such term is understood under the rules promulgated pursuant to Section 13(d) of the Exchange Act.

(j) No Rule 506 Disqualifying Activities. Such Purchaser has not taken any of the actions set forth in, and is not subject to, the disqualification provisions of Rule 506(d)(1) of the Securities Act.

(k) Residency. Such Purchaser is a resident of the jurisdiction specified below its address on the signature pages hereto.

(l) Restricted Securities. Such Purchaser understands that the Shares are characterized as "restricted securities" under the U.S. federal securities laws inasmuch as they are being acquired from the Company in a transaction not involving a public offering and that under such laws and applicable regulations such securities may be resold without registration under the Securities Act only in certain limited circumstances.

(m) Legends. It is understood that, except as provided below, certificates or book entry accounts evidencing the Shares may bear the following or any similar legend:

"THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND, ACCORDINGLY, MAY NOT BE TRANSFERRED UNLESS (I) SUCH SECURITIES HAVE BEEN REGISTERED FOR SALE PURSUANT TO THE SECURITIES ACT OF 1933, AS AMENDED, (II) SUCH SECURITIES MAY BE SOLD PURSUANT TO RULE 144, OR (III) THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO IT THAT SUCH TRANSFER MAY LAWFULLY BE MADE WITHOUT REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES."

If required by the authorities of any state in connection with the issuance of sale of the Shares, the legend required by such state authority.

The Company acknowledges and agrees that the representations contained in this Section 3.2 shall not modify, amend or affect such Purchaser's right to rely on the Company's representations and warranties contained in this Agreement or any representations and warranties contained in any other Transaction Document or any other document or instrument executed and/or delivered in connection with this Agreement or the consummation of the transactions contemplated hereby. Notwithstanding the foregoing, for the avoidance of doubt, nothing contained herein shall constitute a representation or warranty, or preclude any actions, with respect to locating or borrowing shares in order to effect Short Sales or similar transactions in the future.

ARTICLE IV. OTHER AGREEMENTS OF THE PARTIES

4.1 Removal of Legends.

(a) In connection with any sale, assignment, transfer or other disposition of the Shares by a Purchaser pursuant to Rule 144 or pursuant to any other exemption under the Securities Act such that the purchaser acquires freely tradable shares and upon compliance by the Purchaser with the requirements of this Agreement, if requested by the Purchaser, the Company shall cause the Transfer Agent to timely remove any restrictive legends related to the book entry account holding such Shares and make a new, unlegended entry for such book entry Shares sold or disposed of without restrictive legends within two Business Days of the request of the Purchaser, provided that the Company has received from the Purchaser customary representations and other documentation reasonably acceptable to the Company in connection therewith.

26

(b) Subject to receipt from the Purchaser by the Company and the Transfer Agent of customary representations and other customary documentation reasonably acceptable to the Company and the Transfer Agent in connection therewith, upon the earliest of (i) the Shares being subject to an effective registration statement covering the resale of the Shares, (ii) such time as the Shares have been sold pursuant to Rule 144, or (iii) such time as the Shares are eligible for resale under Rule 144(c) without current information or volume limitations or any successor provision (such earliest date, the "Effective Date"), the Company shall (A) deliver to the Transfer Agent irrevocable instructions that the Transfer Agent shall make a new, unlegended entry for such book entry Shares, and (B) cause its counsel to deliver to the Transfer Agent, no later than two Trading Days after the Effective Date, one or more opinions to the effect that the removal of such legends in such circumstances may be effected under the Securities Act if required by the Transfer Agent to effect the removal of the legend in accordance with such irrevocable instructions and the other applicable provisions of this Agreement. The Company agrees that following the Effective Date or at such time as such legend is no longer required under this Section, it will, no later than two Trading Days following the delivery by a Purchaser to the Company or the Transfer Agent of a certificate representing Shares issued with a restrictive legend, deliver or cause to be delivered to such Purchaser a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section. Shares subject to legend removal hereunder shall be transmitted by the Transfer Agent to the Purchaser by crediting the account of the Purchaser's prime broker with the DTC System as directed by such Purchaser. The Company shall be responsible for the fees of its Transfer Agent and all DTC fees associated with such issuance.

(c) Each Purchaser, severally and not jointly with the other Purchasers, agrees with the Company (i) that such Purchaser will sell any Shares pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery requirements, or an exemption therefrom, (ii) that if Shares are sold pursuant to a registration statement, they will be sold in compliance with the plan of distribution set forth therein and (iii) that if, after the effective date of the registration statement covering the resale of the Shares, such registration statement is not then effective and the Company has provided notice to such Purchaser to that effect, such Purchaser will sell shares only in compliance with an exemption from the registration requirements of the Securities Act. Each Purchaser acknowledges that the removal of the restrictive legend from certificates representing Shares as set forth in this Section is predicated upon the Company's reliance upon this understanding and that any counsel to the Company will be entitled to rely on this acknowledgment in connection with the opinion(s) described in Section 4.1(b).

27

4.2 Integration. The Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Shares for purposes of the rules and regulations of any Trading Market such that it would require shareholder approval prior to the closing of such other transaction unless shareholder approval is obtained before the closing of such subsequent transaction.

4.3 Securities Laws Disclosure: Publicity. The Company shall (a) by the Disclosure Time issue a press release disclosing the material terms of the transactions contemplated hereby, and (b) file a Current Report on Form 8-K, including the Transaction Documents as exhibits thereto, with the Commission within the time required by the Exchange Act. From and after the issuance of such press release, the Company represents to the Purchasers that it shall have publicly disclosed all material, non-public information delivered to any of the Purchasers by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents. In addition, effective upon the issuance of such press release, the Company acknowledges and agrees that any and all confidentiality or similar obligations under any agreement, whether written or oral, between the Company, any of its Subsidiaries or any of their respective officers, directors, agents, employees or Affiliates on the one hand, and any of the Purchasers or any of their Affiliates on the other hand, shall terminate. The Company and each Purchaser shall consult with each other in issuing any other press releases with respect to the transactions contemplated hereby, and neither the Company nor any Purchaser shall issue any such press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of any Purchaser, or without the prior consent of each Purchaser, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of any Purchaser, or include the name of any Purchaser in any filing with the Commission or any regulatory agency or Trading Market, without the prior written consent of such Purchaser, except (a) as required by federal securities law in connection with the filing of final Transaction Documents with the Commission and (b) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide the Purchasers with prior notice of such disclosure permitted under this clause (b).

4.4 Shareholder Rights Plan. No claim will be made or enforced by the Company or, with the consent of the Company, by any other Person, that any Purchaser is an "Acquiring Person" under any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or similar anti-takeover plan or arrangement in effect or hereafter adopted by the Company, or that any Purchaser could be deemed to trigger the provisions of any such plan or arrangement, by virtue of receiving Shares under the Transaction Documents or under any other agreement between the Company and the Purchasers.

28

4.5 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, which shall be disclosed pursuant to Section 4.3, the Company covenants and agrees that neither it, nor any other Person acting on its behalf will provide any Purchaser or its agents or counsel with any information that constitutes, or the Company reasonably believes constitutes, material non-public information, unless prior thereto such Purchaser shall have consented to the receipt of such information and agreed with the Company to keep such information confidential. The Company understands and confirms that any Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company. To the extent that the Company delivers any material, non-public information to a Purchaser without such Purchaser's consent, the Company hereby covenants and agrees that such Purchaser shall not have any duty of confidentiality to the Company, any of its Subsidiaries, or any of their respective officers, directors, agents, employees or Affiliates, or a duty to the Company, any of its Subsidiaries or any of their respective officers,

directors, agents, employees or Affiliates not to trade on the basis of, such material, non-public information, provided that the Purchaser shall remain subject to applicable law. To the extent that any notice provided pursuant to any Transaction Document constitutes, or contains, material, non-public information regarding the Company or any Subsidiaries, the Company shall simultaneously file such material non-public information with the Commission pursuant to a Current Report on Form 8-K. The Company understands and confirms that the Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

4.6 Use of Proceeds. The Company shall use the net proceeds from the sale of the Shares hereunder as set forth on Schedule 4.6 attached hereto following the Closing. Except as set forth on Schedule 4.6, the Company shall use the net proceeds from the sale of the Shares hereunder for working capital purposes and shall not use such proceeds: (a) for the satisfaction of any portion of the Company's debt (other than payment of trade payables in the ordinary course of the Company's business and prior practices), (b) for the redemption of any shares of Common Stock or Common Stock Equivalents, (c) for the settlement of any outstanding litigation or (d) in violation of FCPA or OFAC regulations.

29

4.7 Indemnification of Purchasers. Subject to the provisions of this Section 4.7, the Company will indemnify and hold each Purchaser and its directors, officers, managers, advisors, brokers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, managers, advisors, brokers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a "Purchaser Party") harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and reasonable expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys' fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents, (b) the administration, performance or enforcement by the Investors of any of the Transaction Documents or consummation of any transaction described therein, (c) additionally, if any taxes (excluding taxes imposed upon or measured solely by the net income of the recipient of any payment made under any Transaction Document, but including any intangibles tax, stamp tax, recording tax or franchise tax) shall be imposed on the Company or any Purchaser Party, whether or not lawfully payable, on account of the execution or delivery of this Agreement, or the execution, delivery, issuance or recording of any of the other Transaction Documents, or the creation or repayment of any of obligations hereunder, by reason of any applicable regulations now or hereafter in effect, the Company shall pay (or shall promptly reimburse such Purchaser Party for the payment of) all such taxes, including any interest, penalties, expenses and other losses with respect thereto), and will indemnify and hold the Purchaser Parties harmless from and against all interest, penalties, expenses and losses arising therefrom or in connection therewith, or (d) any action instituted against the Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Party, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a material breach of such Purchaser Party's representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party which is finally judicially determined to constitute fraud, gross negligence or willful misconduct). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (x) the employment thereof has been specifically authorized by the Company in writing, (y) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (z) in such action there is, in the reasonable opinion of counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (1) for any settlement or compromise of, or consent to the entry of judgement in, any action, claim or proceeding by a Purchaser Party effected without the Company's prior written consent, which shall not be unreasonably withheld or delayed; or (2) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party's breach of any of the representations, warranties, covenants or agreements made by such Purchaser Party in this Agreement or in the other Transaction Documents. The indemnification required by this Section 4.7 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.8 Listing of Common Stock. The Company hereby agrees to use best efforts to maintain the listing of the Common Stock on the Trading Market on which it is currently listed. The Company will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Trading Market. For so long as the Company maintains a listing or quotation of the Common Stock on a Trading Market, the Company agrees to maintain the eligibility of the Common Stock for electronic transfer through the Depository Trust Company or another established clearing corporation, including, without limitation, by timely payment of fees to the Depository Trust Company or such other established clearing corporation in connection with such electronic transfer.

30

4.9 Reservation and Listing of Securities.

(a) On and after the Reverse Stock Split Date, the Company shall maintain a reserve, free of any preemptive rights, from its duly authorized shares of Common Stock for issuance pursuant to the Transaction Documents in such amount as may then be required to fulfill its obligations in full under the Transaction Documents. If, at any date after the Reverse Stock Split Date, the number of authorized but unissued (and otherwise unreserved) shares of Common Stock is less than the Required Minimum on such date, then the Board of Directors shall use commercially reasonable efforts to amend the Company's certificate or articles of incorporation to increase the number of authorized but unissued shares of Common Stock to at least the Required Minimum at such time, as soon as possible, and in any event not later than the 90th day after such date; provided, that the Company shall not be obligated to hold a meeting of its stockholders to approve such an amendment more than once in every six (6) months.

(b) As soon as reasonably possible and, in any event, within four (4) days of the Closing Date, the Company will file a preliminary proxy statement with the SEC for purposes of holding a special meeting of stockholders to approve the Reverse Stock Split Amendment. Thereafter, unless the Company has received comments from the SEC to the preliminary proxy statement, the Company shall file a definitive proxy statement for such purposes within fifteen (15) days of the Closing Date. In the event the Company receives comments to the preliminary proxy statement from the SEC, the Company shall promptly and diligently respond to and use commercially reasonable efforts to resolve such comments. The Company shall keep the Investors reasonably informed of any such comments and responses. As long as the Company has Shares outstanding, the Company shall hold a special meeting of stockholders (which may also be at the annual meeting of stockholders) on or prior to July 31, 2022, for the purpose of obtaining the Stockholder Approval with the recommendation of the Company's Board of Directors that such proposals are approved, and the Company shall solicit proxies from its stockholders in connection therewith in the same manner as all other management proposals in such proxy statement and all management-appointed proxyholders shall vote their proxies in favor of such proposals. The Company shall use its best efforts to obtain the Stockholder Approval. If the Company does not obtain the Stockholder Approval at the first meeting, the Company shall call a meeting at least every one hundred twenty (120) days thereafter to seek the Stockholder Approval until the date on which the Stockholder Approval is obtained. When the Company obtains the Stockholder Approval, the Company shall file the Reverse Stock Split Amendment with the State of Delaware, and cause the Reverse Stock Split to become effective, as soon as practicable, but in no event later than one (1) Business Day following the Stockholder Approval. On the Reverse Stock Split Date, the Company shall file a Form 8-K disclosing that the Reverse Stock Split Amendment has been filed with and accepted by the State of Delaware and that the Reverse Stock Split has become effective.

(c) The Company shall, if applicable: (i) in the time and manner required by the principal Trading Market, prepare and file with such Trading Market an additional shares listing application covering a number of shares of Common Stock at least equal to the Required Minimum on the date of such application, (ii) take all steps necessary to cause such shares of Common Stock to be approved for listing or quotation on such Trading Market as soon as possible thereafter, (iii) provide to the

Purchasers evidence of such listing or quotation and (iv) maintain for two (2) years the listing or quotation of such Common Stock on any date at least equal to the Required Minimum on such date on such Trading Market or another Trading Market. The Company agrees to maintain for two (2) years the eligibility of the Common Stock for electronic transfer through the Depository Trust Company or another established clearing corporation, including, without limitation, by timely payment of fees to the Depository Trust Company or such other established clearing corporation in connection with such electronic transfer.

4.10 Subsequent Equity Sales.

(a) To the extent shares of Preferred Stock are outstanding, from the date hereof until sixty (60) days thereafter, neither the Company nor any Subsidiary shall issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or Common Stock Equivalents.

(b) From the date hereof until the earlier of (A) the date on which all Shares are redeemed in accordance with their terms and (B) the date that is one hundred eighty (180) days following the Reverse Stock Split Date, the Company shall be prohibited from effecting or entering into an agreement to effect any issuance by the Company or any of its Subsidiaries of Common Stock or Common Stock Equivalents (or a combination of units thereof) involving a Variable Rate Transaction. “Variable Rate Transaction” means a transaction in which the Company (i) issues or sells any debt or equity securities that are convertible into, exchangeable or exercisable for, or include the right to receive, additional shares of Common Stock either (A) at a conversion price, exercise price or exchange rate or other price that is based upon, and/or varies with, the trading prices of or quotations for the shares of Common Stock at any time after the initial issuance of such debt or equity securities or (B) with a conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such debt or equity security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock or (ii) enters into, or effects a transaction under, any agreement, including, but not limited to, an equity line of credit, whereby the Company may issue securities at a future determined price. Any Purchaser shall be entitled to obtain injunctive relief against the Company to preclude any such issuance, which remedy shall be in addition to any right to collect damages.

(c) Until the Reverse Stock Split Date, neither the Company nor any Subsidiary shall make any issuance whatsoever of Common Stock or Common Stock Equivalents. The Purchaser shall be entitled to obtain injunctive relief against the Company to preclude any such issuance, which remedy shall be in addition to any right to collect damages.

(d) Notwithstanding the foregoing, this Section 4.10 shall not apply in respect of an Exempt Issuance, except that no Variable Rate Transaction shall be an Exempt Issuance.

4.11 Restrictions on Conversion and Voting of Preferred Stock

(a) From the date hereof up to and including the Reverse Stock Split Date, each Purchaser, severally and not jointly with the other Purchasers, covenants that such Purchaser will not convert any shares of Preferred Stock and such Purchaser will not transfer, offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise)) any shares of Preferred Stock.

(b) Each Purchaser covenants to (i) vote, and shall cause its Affiliates to vote, all shares of Series A Stock owned by such Purchaser or its Affiliates, as applicable, in favor of any resolution presented to the shareholders of the Company for the purpose of obtaining the Stockholder Approval, and (ii) promptly upon request by the Company, grant the Company (or its designee) an irrevocable proxy, in form and substance reasonably satisfactory to such Purchaser, to vote all shares of Series A Stock in accordance with clause (i) above, in each case, in accordance with the provisions of the Series A Certificate of Designations.

(c) Each Purchaser covenants to (i) vote, and shall cause its Affiliates to vote, all shares of Series B Stock owned by such Purchaser or its Affiliates, as applicable, on any resolution presented to the stockholders of the Company for purposes of obtaining the Stockholder Approval and agrees that such shares of Series B Stock shall automatically and without further action of the Purchaser be voted in a manner that “mirrors” the proportions on which the shares of Common Stock (excluding any shares of Common Stock that are not voted) and Series A Stock are voted on the Reverse Stock Split Amendment, as set forth in the Series B Certificate of Designation; and (ii) promptly upon request by the Company, grant the Company (or its designee) an irrevocable proxy to vote all shares of Series B Stock in accordance with clause (i) above. For the avoidance of doubt, and for illustrative purposes only, if 30% of the aggregate votes cast by Common Stock and Series A Stock voting in connection with the Reverse Stock Split Amendment are voted against such resolutions and 70% of the aggregate votes cast by Common Stock and Series A Stock voting in connection with the Reverse Stock Split Amendment are voted in favor thereof, then 30% of the votes cast by the shares of Series B Stock voting in connection with the Reverse Stock Split Amendment shall vote against the approval of the Reverse Stock Split Amendment and 70% of such votes shall be cast in favor of such Reverse Stock Split Amendment, in each case, in accordance with the provisions of the Series B Certificate of Designations.

4.12 Equal Treatment of Purchasers. No consideration (including any modification of any Transaction Document) shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of the Transaction Documents unless the same consideration is also offered to all of the parties to such Transaction Documents. For clarification purposes, this provision constitutes a separate right granted to each Purchaser by the Company and negotiated separately by each Purchaser, and is intended for the Company to treat the Purchasers as a class and shall not in any way be construed as the Purchasers acting in concert or as a group with respect to the purchase, disposition or voting of Shares or otherwise.

4.13 Certain Transactions and Confidentiality. Each Purchaser, severally and not jointly with the other Purchasers, covenants that neither it nor any Affiliate acting on its behalf or pursuant to any understanding with it will execute any purchases or sales, including Short Sales of any of the Company’s securities during the period commencing with the execution of this Agreement and ending at such time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.3. Each Purchaser, severally and not jointly with the other Purchasers covenants that until such time as the transactions contemplated by this Agreement are publicly disclosed by the Company pursuant to the initial press release as described in Section 4.3, such Purchaser will maintain the confidentiality of the existence and terms of this transaction and the information included in the Disclosure Schedules. Notwithstanding the foregoing, and notwithstanding anything contained in this Agreement to the contrary (including Section 4.12), the Company expressly acknowledges and agrees that (i) no Purchaser makes any representation, warranty or covenant hereby that it will not engage in effecting transactions in any securities of the Company after the time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.3, (ii) no Purchaser shall be restricted or prohibited from effecting any transactions in any securities of the Company in accordance with applicable securities laws from and after the time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.3 and (iii) no Purchaser shall have any duty of confidentiality or duty not to trade in the securities of the Company to the Company or its Subsidiaries after the issuance of the initial press release as described in Section 4.3. Notwithstanding the foregoing, and except as set forth in Section 4.12, in the case of a Purchaser that is a multi-managed investment vehicle whereby separate portfolio managers manage separate portions of such Purchaser’s assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of such Purchaser’s assets, the covenant set forth above shall only apply with respect to the portion of assets managed by the portfolio manager that made the investment decision to purchase the Securities covered by this Agreement.

4.14 Capital Changes. Except for the Reverse Stock Split, until the one-year anniversary of the Closing Date, the Company shall not undertake a reverse or forward stock split or reclassification of the Common Stock without the prior written consent of the Purchasers holding a majority in interest of the Shares, provided that no consent shall be required in the event the Company undertakes a reverse stock split for purposes of maintaining the listing of the Common Stock on the Trading Market.

4.15 Securities Law Filings. The Company covenants and agrees that all reports, schedules, forms, statements, and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, will conform in all material respects to the requirements of the Securities Act and Exchange Act and the applicable rules and regulations, as applicable, and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made not misleading.

ARTICLE V.
MISCELLANEOUS

5.1 Termination. This Agreement may be terminated by any Purchaser, by written notice to the Company, if the Closing has not been consummated on or before the fifth (5th) Trading Day following the date hereof.

5.2 Fees and Expenses. Except as expressly set forth in the Transaction Documents to the contrary, each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall pay all Transfer Agent fees (including, without limitation, any fees required for same-day processing of any instruction letter delivered by the Company and any exercise notice delivered by a Purchaser), stamp taxes and other taxes and duties levied in connection with the delivery of any Shares to the Purchasers.

5.3 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and thereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules.

5.4 Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of: (a) the time of transmission, if such notice or communication is delivered via facsimile at the facsimile number or email attachment at the email address as set forth below at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the time of transmission, if such notice or communication is delivered via facsimile at the facsimile number or email attachment at the email address as set forth below on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the second (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth below:

If to the Company:

Abeona Therapeutics, Inc.
1330 Avenue of the Americas, 33rd Floor,
New York, NY 10019

Attn: Joseph Vazzano
Chief Financial Officer

Email: jvazzano@abeonatherapeutics.com

with a copy (which shall not constitute notice) to:

Morgan, Lewis & Bockius LLP
One Federal St
Boston, MA 02110
Attn: John J. Concannon III
Email: jack.concannon@morganlewis.com

If to the Purchasers:

to the addresses set forth on the signature pages hereto.

5.5 Amendments; Waivers. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment prior to Closing by each individual Purchaser, and after Closing, by the Company and Purchasers which purchased a majority in interest of the Shares based on the initial Subscription Amounts hereunder or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought, provided that if any amendment, modification or waiver disproportionately and adversely impacts a Purchaser (or group of Purchasers), the consent of such disproportionately impacted Purchaser (or group of Purchasers) shall also be required. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

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

5.7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger). Any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any Shares, provided that such transferee agrees in writing to be bound, with respect to the transferred Shares, by the provisions of the Transaction Documents that apply to the "Purchasers."

5.8 No Third-Party Beneficiaries. The Placement Agent shall be the third-party beneficiary of the representations and warranties of the Company in Section 3.1 and the representations and warranties of the Purchasers in Section 3.2. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.7 and this Section 5.8.

5.9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents 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 Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) 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 (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such 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 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 Agreement 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 any party shall commence an action or proceeding to enforce any provisions of the Transaction Documents, then, in addition to the obligations of the Company under Section 4.7, the prevailing party in such action or proceeding shall be reimbursed by the non-prevailing party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

36

5.10 Survival. The covenants, representations and warranties contained herein shall survive the Closing and the delivery of the Shares for a period of five (5) years from the Closing.

5.11 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.

5.12 Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

5.13 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then such Purchaser may rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights.

37

5.14 Replacement of Shares. If any certificate or instrument evidencing any Shares is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation thereof (in the case of mutilation), or in lieu of and substitution therefor, a new certificate or instrument, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction. The applicant for a new certificate or instrument under such circumstances shall also pay any reasonable third-party costs (including customary indemnity) associated with the issuance of such replacement Shares.

5.15 Remedies. In addition to being entitled to exercise all rights provided herein or granted by law, including recovery of damages, each of the Purchasers and the Company will be entitled to seek specific performance under the Transaction Documents. The parties agree that monetary damages may not be adequate compensation for any loss incurred by reason of any breach of obligations contained in the Transaction Documents and hereby agree to waive and not to assert in any action for specific performance of any such obligation the defense that a remedy at law would be adequate.

5.16 Payment Set Aside. To the extent that the Company makes a payment or payments to any Purchaser pursuant to any Transaction Document or a Purchaser enforces or exercises its rights thereunder, and such payment or payments or the proceeds of such enforcement or exercise or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside, recovered from, disgorged by or are required to be refunded, repaid or otherwise restored to the Company, a trustee, receiver or any other Person under any law (including, without limitation, any bankruptcy law, state or federal law, common law or equitable cause of action), then to the extent of any such restoration the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or setoff had not occurred.

5.17 Independent Nature of Purchasers' Obligations and Rights. The Purchasers have been represented by its own separate legal counsel in its review and negotiation of the Transaction Documents. For reasons of administrative convenience only, the Purchasers and their counsel have chosen to communicate with the Company through the legal counsel of the Placement Agent. The legal counsel of the Placement Agent does not represent the Purchasers and only represents the Placement Agent.

5.18 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.

5.19 Construction. The parties agree that each of them and/or their respective counsel have reviewed and had an opportunity to revise the Transaction Documents and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Transaction Documents or any amendments thereto. In addition, each and every reference to share prices and shares of Common Stock in any Transaction Document shall be subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

5.20 WAIVER OF JURY TRIAL. IN ANY ACTION, SUIT, OR PROCEEDING IN ANY JURISDICTION BROUGHT BY ANY PARTY AGAINST ANY OTHER PARTY, THE PARTIES EACH KNOWINGLY AND INTENTIONALLY, TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, HEREBY ABSOLUTELY, UNCONDITIONALLY, IRREVOCABLY AND EXPRESSLY WAIVES FOREVER TRIAL BY JURY.

(Signature Pages Follow)

38

IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

ABEONA THERAPEUTICS INC.

By: _____
Name: Joseph Vazzano
Title: Chief Financial Officer

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOR PURCHASER FOLLOWS]

39

[PURCHASER SIGNATURE PAGES TO SECURITIES PURCHASE AGREEMENT]

IN WITNESS WHEREOF, the undersigned have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

Name of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Email Address of Authorized Signatory: _____

Facsimile Number of Authorized Signatory: _____

Address for Notice to Purchaser: _____

DWAC for Shares: _____

Subscription Amount for Series A Stock: \$ _____

Shares of Series A Stock: _____

Subscription Amount for Series B Stock: \$ _____

Shares of Series B Stock: _____

Per Share Purchase Price: _____

Purchase Price for Series A Stock: \$ _____

Purchase Price for Series B Stock: \$ _____

EIN Number: _____

40

EXHIBIT A

Form of Registration Rights Agreement

41

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this “Agreement”) is made and entered into as of May 2, 2022, between Abeona Therapeutics Inc., a Delaware corporation (the “Company”), and each of the several purchasers signatory hereto (each such purchaser, a “Purchaser” and, collectively, the “Purchasers”).

This Agreement is made pursuant to the Securities Purchase Agreement, dated as of April 29, 2022, between the Company and the Purchasers named therein (the “Purchase Agreement”).

The Company and each Purchaser hereby agrees as follows:

1. Definitions.

Capitalized terms used and not otherwise defined herein that are defined in the Purchase Agreement shall have the meanings given such terms in the Purchase Agreement. As used in this Agreement, the following terms shall have the following meanings:

“Advice” shall have the meaning set forth in Section 6(c).

“Common Stock” means the common stock of the Company, par value \$0.01 per share.

“Effectiveness Date” means, with respect to the Initial Registration Statement required to be filed hereunder, the 80th calendar day following the date hereof (or, in the event of a “full review” by the Commission, the 90th calendar day following the date hereof) and with respect to any additional Registration Statements which may be required pursuant to Section 2(c) or Section 3(c), the 20th calendar day following the date on which an additional Registration Statement is required to be filed hereunder (or, in the event of a “full review” by the Commission, the 80th calendar day following the date hereof); provided, however, that in the event the Company is notified by the Commission that one or more of the above Registration Statements will not be reviewed or is no longer subject to further review and comments, the Effectiveness Date as to such Registration Statement shall be the fifth Trading Day following the date on which the Company is so notified if such date precedes the dates otherwise required above, provided, further, if such Effectiveness Date falls on a day that is not a Trading Day, then the Effectiveness Date shall be the next succeeding Trading Day.

“Effectiveness Period” shall have the meaning set forth in Section 2(a).

“Event” shall have the meaning set forth in Section 2(d).

“Event Date” shall have the meaning set forth in Section 2(d).

“Filing Date” means, with respect to the Initial Registration Statement required hereunder, the later of ten (10) calendar days following the date of the stockholder meeting held to seek approval of the Reverse Stock Split Amendment and the 70th calendar day following the date hereof and, with respect to any additional Registration Statements which may be required pursuant to Section 2(c) or Section 3(c), the earliest practical date on which the Company is permitted by SEC Guidance to file such additional Registration Statement related to the Registrable Securities.

“Holder” or “Holders” means the holder or holders, as the case may be, from time to time of Registrable Securities.

“Indemnified Party” shall have the meaning set forth in Section 5(c).

“Indemnifying Party” shall have the meaning set forth in Section 5(c).

“Initial Registration Statement” means the initial Registration Statement filed pursuant to this Agreement.

“Losses” shall have the meaning set forth in Section 5(a).

“Plan of Distribution” shall have the meaning set forth in Section 2(a).

“Preferred Stock” means the Series A Convertible Redeemable Preferred Stock, par value \$0.01 per share, and the Series B Convertible Redeemable Preferred Stock, par value \$0.01 per share.

“Prospectus” means the prospectus included in a Registration Statement (including, without limitation, a prospectus that includes any information previously omitted from a prospectus filed as part of an effective registration statement in reliance upon Rule 430A promulgated by the Commission pursuant to the Securities Act), as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by a Registration Statement, and all other amendments and supplements to the Prospectus, including post-effective amendments, and all material incorporated by reference or deemed to be incorporated by reference in such Prospectus.

“Registrable Securities” means, as of any date of determination, (a) the shares of Common Stock issuable upon conversion of the Preferred Stock, and (b) any securities issued or then issuable upon any share split, dividend or other distribution, recapitalization or similar event with respect to the foregoing; provided, however, that any such Registrable Securities shall cease to be Registrable Securities (and the Company shall not be required to maintain the effectiveness of any, or file another, Registration Statement hereunder with respect thereto) for so long as (a) a Registration Statement with respect to the sale of such Registrable Securities is declared effective by the Commission under the Securities Act and such Registrable Securities have been disposed of by the Holder in accordance with such effective Registration Statement, (b) such Registrable Securities have been previously sold in accordance with Rule 144, or (c) such securities become eligible for resale without volume or manner-of-sale restrictions and without current public information pursuant to Rule 144 as set forth in a written opinion letter to such effect, addressed, delivered and acceptable to the Transfer Agent and the affected Holders (assuming that such securities and any securities issuable upon exercise, conversion or exchange of which, or as a dividend upon which, such securities were issued or are issuable, were at no time held by any Affiliate of the Company, as reasonably determined by the Company, upon the advice of counsel to the Company).

“Registration Statement” means any registration statement required to be filed hereunder pursuant to Section 2(a) and any additional registration statements contemplated by Section 2(c) or Section 3(c), including (in each case) the Prospectus, amendments and supplements to any such registration statement or Prospectus, including pre- and post-effective amendments, all exhibits thereto, and all material incorporated by reference or deemed to be incorporated by reference in any such registration statement.

“Rule 415” means Rule 415 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 424” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Selling Shareholder Questionnaire” shall have the meaning set forth in Section 3(a).

“SEC Guidance” means (i) any publicly-available written or oral guidance of the Commission staff, or any comments, requirements or requests of the Commission staff and (ii) the Securities Act.

2. Shelf Registration.

(a) On or prior to each Filing Date, the Company shall prepare and file with the Commission a Registration Statement covering the resale of all of the Registrable Securities that are not then registered on an effective Registration Statement for an offering to be made on a continuous basis pursuant to Rule 415. Each Registration Statement filed hereunder shall be on Form S-3 (except if the Company is not then eligible to register for resale the Registrable Securities on Form S-3, in which case such registration shall be on another appropriate form in accordance herewith, subject to the provisions of Section 2(e)) and shall contain substantially the “Plan of Distribution” attached hereto as Annex A and substantially the “Selling Shareholder” section attached hereto as Annex B; provided, however, that no Holder shall be required to be named as an “underwriter” without such Holder’s express prior written consent. Subject to the terms of this Agreement, the Company shall use its best efforts to cause a Registration Statement filed under this Agreement (including, without limitation, under Section 3(c)) to be declared effective under the Securities Act as promptly as possible after the filing thereof, but in any event no later than the applicable Effectiveness Date, and shall use its best efforts to keep such Registration Statement continuously effective under the Securities Act until the date that all Registrable Securities covered by such Registration Statement (i) have been sold, thereunder or pursuant to Rule 144, or (ii) may be sold without volume or manner-of-sale restrictions pursuant to Rule 144 and without the requirement for the Company to be in compliance with the current public information requirement under Rule 144, as determined by the counsel to the Company pursuant to a written opinion letter to such effect, addressed and acceptable to the Transfer Agent and the affected Holders (the “Effectiveness Period”). The Company shall telephonically request effectiveness of a Registration Statement as of 5:00 p.m. (New York City time) on a Trading Day. The Company shall immediately notify the Holders via facsimile or by e-mail of the effectiveness of a Registration Statement on the same Trading Day that the Company telephonically confirms effectiveness with the Commission, which shall be the date requested for effectiveness of such Registration Statement. The Company shall, by 9:30 a.m. (New York City time) on the Trading Day after the effective date of such Registration Statement, file a final Prospectus with the Commission as required by Rule 424. Failure to so notify the Holder within one (1) Trading Day of such notification of effectiveness or failure to file a final Prospectus as foresaid shall be deemed an Event under Section 2(d).

3

(b) Notwithstanding the registration obligations set forth in Section 2(a), if the Commission informs the Company that all of the Registrable Securities cannot, as a result of the application of Rule 415, be registered for resale as a secondary offering on a single registration statement, the Company agrees to promptly inform each of the Holders thereof and use its commercially reasonable efforts to file amendments to the Initial Registration Statement as required by the Commission, covering the maximum number of Registrable Securities permitted to be registered by the Commission, on Form S-3 or such other form available to register for resale the Registrable Securities as a secondary offering, subject to the provisions of Section 2(e); with respect to filing on Form S-3 or other appropriate form, and subject to the provisions of Section 2(d) with respect to the payment of liquidated damages; provided, however, that prior to filing such amendment, the Company shall be obligated to use diligent efforts to advocate with the Commission for the registration of all of the Registrable Securities in accordance with the SEC Guidance, including without limitation, Securities Act Rules Compliance and Disclosure Interpretation Question 612.09.

(c) Notwithstanding any other provision of this Agreement and subject to the payment of liquidated damages pursuant to Section 2(d), if the Commission or any SEC Guidance sets forth a limitation on the number of Registrable Securities permitted to be registered on a particular Registration Statement as a secondary offering (and notwithstanding that the Company used diligent efforts to advocate with the Commission for the registration of all or a greater portion of Registrable Securities), unless otherwise directed in writing by a Holder as to its Registrable Securities, the number of Registrable Securities to be registered on such Registration Statement will be reduced as follows:

(i) First, the Company shall reduce or eliminate any securities to be included other than Registrable Securities;

(ii) Second, the Company shall reduce Registrable Securities represented by Warrant Shares (applied, in the case that some Warrant Shares may be registered, to the Holders on a pro rata basis based on the total number of unregistered Warrant Shares held by such Holders); and

(iii) Third, the Company shall reduce Registrable Securities represented by Shares (applied, in the case that some Shares may be registered, to the Holders on a pro rata basis based on the total number of unregistered Shares held by such Holders).

4

In the event of a cutback hereunder, the Company shall give the Holder at least five (5) Trading Days prior written notice along with the calculations as to such Holder’s allotment. In the event the Company amends the Initial Registration Statement in accordance with the foregoing, the Company will use its best efforts to file with the Commission, as promptly as allowed by Commission or SEC Guidance provided to the Company or to registrants of securities in general, one or more registration statements on Form S-3 or such other form available to register for resale those Registrable Securities that were not registered for resale on the Initial Registration Statement, as amended.

(d) If: (i) the Initial Registration Statement is not filed on or prior to its Filing Date (if the Company files the Initial Registration Statement without affording the Holders the opportunity to review and comment on the same as required by Section 3(a) herein, the Company shall be deemed to have not satisfied this clause (i)), or (ii) the Company fails to file with the Commission a request for acceleration of a Registration Statement in accordance with Rule 461 promulgated by the Commission pursuant to the Securities Act, within five (5) Trading Days of the date that the Company is notified (orally or in writing, whichever is earlier) by the Commission that such Registration Statement will not be “reviewed” or will not be subject to further review, or (iii) prior to the effective date of a Registration Statement, the Company fails to file a pre-effective amendment and otherwise respond in writing to comments made by the Commission in respect of such Registration Statement within ten (10) calendar days after the receipt of comments by or notice from the Commission that such amendment is required in order for such Registration Statement to be declared effective, or (iv) a Registration Statement registering for resale all of the Registrable Securities, subject to the cutback limitations set forth in Section 2(c) of this Agreement, is not declared effective by the Commission by the Effectiveness Date of the Initial Registration Statement, or (v) after the effective date of a Registration Statement, such Registration Statement ceases for any reason to remain continuously effective as to all Registrable Securities included in such Registration Statement, or the Holders are otherwise not permitted to utilize the Prospectus therein to resell such Registrable Securities, for more than ten (10) consecutive calendar days or more than an aggregate of fifteen (15) calendar days (which need not be consecutive calendar days) during any 12-month period (any such failure or breach being referred to as an “Event”, and for purposes of clauses (i) and (iv), the date on which such Event occurs, and for purpose of clause (ii) the date on which such five (5) Trading Day period is exceeded, and for purpose of clause (iii) the date which such ten (10) calendar day period is exceeded, and for purpose of clause (v) the date on which such ten (10) or fifteen (15) calendar day period, as applicable, is exceeded being referred to as “Event Date”), then, in addition to any other rights the Holders may have hereunder or under applicable law, on each such Event Date and on each monthly anniversary of each such Event Date (if the applicable

Event shall not have been cured by such date) until the applicable Event is cured, the Company shall pay to each Holder an amount in cash, as partial liquidated damages and not as a penalty, equal to the product of 2.0% multiplied by the aggregate Subscription Amount paid by such Holder pursuant to the Purchase Agreement. If the Company fails to pay any partial liquidated damages pursuant to this Section in full within seven days after the date payable, the Company will pay interest thereon at a rate of 18% per annum (or such lesser maximum amount that is permitted to be paid by applicable law) to the Holder, accruing daily from the date such partial liquidated damages are due until such amounts, plus all such interest thereon, are paid in full. The partial liquidated damages pursuant to the terms hereof shall apply on a daily pro rata basis for any portion of a month prior to the cure of an Event.

5

(e) If Form S-3 is not available for the registration of the resale of Registrable Securities hereunder, the Company shall (i) register the resale of the Registrable Securities on another appropriate form and (ii) undertake to register the Registrable Securities on Form S-3 as soon as such form is available, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as a Registration Statement on Form S-3 covering the Registrable Securities has been declared effective by the Commission.

(f) Notwithstanding anything to the contrary contained herein, in no event shall the Company be permitted to name any Holder or affiliate of a Holder as any Underwriter without the prior written consent of such Holder.

3. Registration Procedures.

In connection with the Company's registration obligations hereunder, the Company shall:

(a) Not less than five (5) Trading Days prior to the filing of each Registration Statement and not less than one (1) Trading Day prior to the filing of any related Prospectus or any amendment or supplement thereto (including any document that would be incorporated or deemed to be incorporated therein by reference), the Company shall (i) furnish to each Holder copies of all such documents proposed to be filed, which documents (other than those incorporated or deemed to be incorporated by reference) will be subject to the review of such Holders, and (ii) cause its officers and directors, counsel and independent registered public accountants to respond to such inquiries as shall be necessary, in the reasonable opinion of respective counsel to each Holder, to conduct a reasonable investigation within the meaning of the Securities Act. The Company shall not file a Registration Statement or any such Prospectus or any amendments or supplements thereto to which the Holders of a majority of the Registrable Securities shall reasonably object in good faith, provided that, the Company is notified of such objection in writing no later than five (5) Trading Days after the Holders have been so furnished copies of a Registration Statement or one (1) Trading Day after the Holders have been so furnished copies of any related Prospectus or amendments or supplements thereto. Each Holder agrees to furnish to the Company a completed questionnaire in the form attached to this Agreement as Annex B (a "Selling Shareholder Questionnaire") on a date that is not less than two (2) Trading Days prior to the Filing Date or by the end of the fourth (4th) Trading Day following the date on which such Holder receives draft materials in accordance with this Section.

6

(b) (i) Prepare and file with the Commission such amendments, including post-effective amendments, to a Registration Statement and the Prospectus used in connection therewith as may be necessary to keep a Registration Statement continuously effective as to the applicable Registrable Securities for the Effectiveness Period and prepare and file with the Commission such additional Registration Statements in order to register for resale under the Securities Act all of the Registrable Securities, (ii) cause the related Prospectus to be amended or supplemented by any required Prospectus supplement (subject to the terms of this Agreement), and, as so supplemented or amended, to be filed pursuant to Rule 424, (iii) respond as promptly as reasonably possible to any comments received from the Commission with respect to a Registration Statement or any amendment thereto and provide as promptly as reasonably possible to the Holders true and complete copies of all correspondence from and to the Commission relating to a Registration Statement (provided that, the Company shall excise any information contained therein which would constitute material non-public information regarding the Company or any of its Subsidiaries), and (iv) comply in all material respects with the applicable provisions of the Securities Act and the Exchange Act with respect to the disposition of all Registrable Securities covered by a Registration Statement during the applicable period in accordance (subject to the terms of this Agreement) with the intended methods of disposition by the Holders thereof set forth in such Registration Statement as so amended or in such Prospectus as so supplemented.

(c) If during the Effectiveness Period, the number of Registrable Securities at any time exceeds 100% of the number of shares of Common Stock then registered in a Registration Statement, then the Company shall file as soon as reasonably practicable, but in any case prior to the applicable Filing Date, an additional Registration Statement covering the resale by the Holders of not less than the number of such Registrable Securities.

(d) Notify the Holders of Registrable Securities to be sold (which notice shall, pursuant to clauses (iii) through (vi) hereof, be accompanied by an instruction to suspend the use of the Prospectus until the requisite changes have been made) as promptly as reasonably possible (and, in the case of (i)(A) below, not less than one (1) Trading Day prior to such filing) and (if requested by any such Person) confirm such notice in writing no later than one (1) Trading Day following the day (i)(A) when a Prospectus or any Prospectus supplement or post-effective amendment to a Registration Statement is proposed to be filed, (B) when the Commission notifies the Company whether there will be a "review" of such Registration Statement and whenever the Commission comments in writing on such Registration Statement, and (C) with respect to a Registration Statement or any post-effective amendment, when the same has become effective, (ii) of any request by the Commission or any other federal or state governmental authority for amendments or supplements to a Registration Statement or Prospectus or for additional information, (iii) of the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of a Registration Statement covering any or all of the Registrable Securities or the initiation of any Proceedings for that purpose, (iv) of the receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Registrable Securities for sale in any jurisdiction, or the initiation or threatening of any Proceeding for such purpose, (v) of the occurrence of any event or passage of time that makes the financial statements included in a Registration Statement ineligible for inclusion therein or any statement made in a Registration Statement or Prospectus or any document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires any revisions to a Registration Statement, Prospectus or other documents so that, in the case of a Registration Statement or the Prospectus, as the case may be, it will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, and (vi) of the occurrence or existence of any pending corporate development with respect to the Company that the Company believes may be material and that, in the determination of the Company, makes it not in the best interest of the Company to allow continued availability of a Registration Statement or Prospectus; provided, however, that in no event shall any such notice contain any information which would constitute material, non-public information regarding the Company or any of its Subsidiaries and the Company agrees that the Holders shall not have any duty of confidentiality to the Company or any of its Subsidiaries and shall not have any duty to the Company or any of its Subsidiaries not to trade on the basis of such information.

7

(e) Use its best efforts to avoid the issuance of, or, if issued, obtain the withdrawal of (i) any order stopping or suspending the effectiveness of a Registration Statement, or (ii) any suspension of the qualification (or exemption from qualification) of any of the Registrable Securities for sale in any jurisdiction, at the earliest practicable moment.

(f) Furnish to each Holder, without charge, at least one conformed copy of each such Registration Statement and each amendment thereto, including

financial statements and schedules, all documents incorporated or deemed to be incorporated therein by reference to the extent requested by such Person, and all exhibits to the extent requested by such Person (including those previously furnished or incorporated by reference) promptly after the filing of such documents with the Commission, provided that any such item which is available on the EDGAR system (or successor thereto) need not be furnished in physical form.

(g) Subject to the terms of this Agreement, the Company hereby consents to the use of such Prospectus and each amendment or supplement thereto by each of the selling Holders in connection with the offering and sale of the Registrable Securities covered by such Prospectus and any amendment or supplement thereto, except after the giving of any notice pursuant to Section 3(d).

(h) The Company shall cooperate with any broker-dealer through which a Holder proposes to resell its Registrable Securities in effecting a filing with the FINRA Corporate Financing Department pursuant to FINRA Rule 5110, as requested by any such Holder, and the Company shall pay the filing fee required by such filing within two (2) Business Days of receipt of a request therefor.

8

(i) Prior to any resale of Registrable Securities by a Holder, use its commercially reasonable efforts to register or qualify or cooperate with the selling Holders in connection with the registration or qualification (or exemption from the Registration or qualification) of such Registrable Securities for the resale by the Holder under the securities or Blue Sky laws of such jurisdictions within the United States as any Holder reasonably requests in writing, to keep each registration or qualification (or exemption therefrom) effective during the Effectiveness Period and to do any and all other acts or things reasonably necessary to enable the disposition in such jurisdictions of the Registrable Securities covered by each Registration Statement, provided that the Company shall not be required to qualify generally to do business in any jurisdiction where it is not then so qualified, subject the Company to any material tax in any such jurisdiction where it is not then so subject or file a general consent to service of process in any such jurisdiction.

(j) If requested by a Holder, cooperate with such Holder to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be delivered to a transferee pursuant to a Registration Statement, which certificates shall be free, to the extent permitted by the Purchase Agreement, of all restrictive legends, and to enable such Registrable Securities to be in such denominations and registered in such names as any such Holder may request.

(k) Upon the occurrence of any event contemplated by Section 3(d), as promptly as reasonably possible under the circumstances taking into account the Company's good faith assessment of any adverse consequences to the Company and its shareholders of the premature disclosure of such event, prepare a supplement or amendment, including a post-effective amendment, to a Registration Statement or a supplement to the related Prospectus or any document incorporated or deemed to be incorporated therein by reference, and file any other required document so that, as thereafter delivered, neither a Registration Statement nor such Prospectus will contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. If the Company notifies the Holders in accordance with clauses (iii) through (vi) of Section 3(d) above to suspend the use of any Prospectus until the requisite changes to such Prospectus have been made, then the Holders shall suspend use of such Prospectus. The Company will use its best efforts to ensure that the use of the Prospectus may be resumed as promptly as is practicable. The Company shall be entitled to exercise its right under this Section 3(j) to suspend the availability of a Registration Statement and Prospectus, subject to the payment of partial liquidated damages otherwise required pursuant to Section 2(d), for a period not to exceed 60 calendar days (which need not be consecutive days) in any 12-month period.

(l) Otherwise use commercially reasonable efforts to comply with all applicable rules and regulations of the Commission under the Securities Act and the Exchange Act, including, without limitation, Rule 172 under the Securities Act, file any final Prospectus, including any supplement or amendment thereof, with the Commission pursuant to Rule 424 under the Securities Act, promptly inform the Holders in writing if, at any time during the Effectiveness Period, the Company does not satisfy the conditions specified in Rule 172 and, as a result thereof, the Holders are required to deliver a Prospectus in connection with any disposition of Registrable Securities and take such other actions as may be reasonably necessary to facilitate the registration of the Registrable Securities hereunder.

9

(m) The Company shall use its reasonable best efforts to maintain eligibility for use of Form S-3 (or any successor form thereto) for the registration of the resale of the Registrable Securities.

(n) The Company may require each selling Holder to furnish to the Company a certified statement as to the number of shares of Common Stock beneficially owned by such Holder and, if required by the Commission, the natural persons thereof that have voting and dispositive control over the shares. During any periods that the Company is unable to meet its obligations hereunder with respect to the registration of the Registrable Securities solely because any Holder fails to furnish such information within three Trading Days of the Company's request, any liquidated damages that are accruing at such time as to such Holder only shall be tolled and any Event that may otherwise occur solely because of such delay shall be suspended as to such Holder only, until such information is delivered to the Company.

4. Registration Expenses. All fees and expenses incident to the performance of or compliance with, this Agreement by the Company shall be borne by the Company whether or not any Registrable Securities are sold pursuant to a Registration Statement. The fees and expenses referred to in the foregoing sentence shall include, without limitation, (i) all registration and filing fees (including, without limitation, fees and expenses of the Company's counsel and independent registered public accountants) (A) with respect to filings made with the Commission, (B) with respect to filings required to be made with any Trading Market on which the shares of Common Stock are then listed for trading, and (C) in compliance with applicable state securities or Blue Sky laws reasonably agreed to by the Company in writing (including, without limitation, fees and disbursements of counsel for the Company in connection with Blue Sky qualifications or exemptions of the Registrable Securities), and (D) if not previously paid by the Company with respect to any filing that may be required to be made by any broker through which a Holder intends to make sales of Registrable Securities with FINRA pursuant to FINRA Rule 5110, so long as the broker is receiving no more than a customary brokerage commission in connection with such sale, (ii) printing expenses (including, without limitation, expenses of printing certificates for Registrable Securities), (iii) messenger, telephone and delivery expenses, (iv) fees and disbursements of counsel for the Company, (v) Securities Act liability insurance, if the Company so desires such insurance, and (vi) fees and expenses of all other Persons retained by the Company in connection with the consummation of the transactions contemplated by this Agreement. In addition, the Company shall be responsible for all of its internal expenses incurred in connection with the consummation of the transactions contemplated by this Agreement (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit and the fees and expenses incurred in connection with the listing of the Registrable Securities on any securities exchange as required hereunder. In no event shall the Company be responsible for any broker or similar commissions of any Holder or, except to the extent provided for in the Transaction Documents, any legal fees or other costs of the Holders.

10

5. Indemnification.

(a) Indemnification by the Company. The Company shall, notwithstanding any termination of this Agreement, indemnify and hold harmless each Holder, the officers, directors, members, partners, agents, brokers (including brokers who offer and sell Registrable Securities as principal as a result of a pledge or any failure to perform under a margin call), investment advisors and employees (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each of them, each Person who controls any such Holder (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) and the officers, directors, members, shareholders, partners, agents and employees (and any other Persons with a functionally

equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each such controlling Person, to the fullest extent permitted by applicable law, from and against any and all losses, claims, damages, liabilities, costs (including, without limitation, reasonable attorneys' fees) and expenses (collectively, "Losses"), as incurred in investigating, preparing or defending against any litigation, commence or threatened, or any claim, arising out of or relating to (1) any untrue or alleged untrue statement of a material fact contained in a Registration Statement, any Prospectus or any form of prospectus or in any amendment or supplement thereto or in any preliminary prospectus, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading or (2) any violation or alleged violation by the Company of the Securities Act, the Exchange Act or any state securities law, or any rule or regulation thereunder, in connection with the performance of its obligations under this Agreement, except to the extent, but only to the extent, that (i) such untrue statements or omissions are based solely upon information regarding such Holder furnished in writing to the Company by such Holder expressly for use therein, or to the extent that such information relates to such Holder or such Holder's proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement, such Prospectus or in any amendment or supplement thereto (it being understood that the Holder has approved Annex A hereto for this purpose) or (ii) in the case of an occurrence of an event of the type specified in Section 3(d)(iii)-(vi), the use by such Holder of an outdated, defective or otherwise unavailable Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated, defective or otherwise unavailable for use by such Holder and prior to the receipt by such Holder of the Advice contemplated in Section 6(c). The Company shall notify the Holders promptly of the institution, threat or assertion of any Proceeding arising from or in connection with the transactions contemplated by this Agreement of which the Company is aware. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such indemnified person and shall survive the transfer of any Registrable Securities by any of the Holders in accordance with Section 6(f).

11

(b) Indemnification by Holders. Each Holder shall, severally and not jointly, indemnify and hold harmless the Company, its directors, officers, agents and employees, each Person who controls the Company (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, agents or employees of such controlling Persons, to the fullest extent permitted by applicable law, from and against all Losses, as incurred, to the extent arising out of or based solely upon: any untrue or alleged untrue statement of a material fact contained in any Registration Statement, any Prospectus, or in any amendment or supplement thereto or in any preliminary prospectus, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading (i) to the extent, but only to the extent, that such untrue statement or omission is contained in any information so furnished in writing by such Holder to the Company expressly for inclusion in such Registration Statement or such Prospectus or (ii) to the extent, but only to the extent, that such information relates to such Holder's information provided in the Selling Shareholder Questionnaire or the proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement (it being understood that the Holder has approved Annex A hereto for this purpose), such Prospectus or in any amendment or supplement thereto. In no event shall the liability of a selling Holder be greater in amount than the dollar amount of the proceeds (net of all expenses paid by such Holder in connection with any claim relating to this Section 5 and the amount of any damages such Holder has otherwise been required to pay by reason of such untrue statement or omission) received by such Holder upon the sale of the Registrable Securities included in the Registration Statement giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. If any Proceeding shall be brought or asserted against any Person entitled to indemnity hereunder (an "Indemnified Party"), such Indemnified Party shall promptly notify the Person from whom indemnity is sought (the "Indemnifying Party") in writing, and the Indemnifying Party shall have the right to assume the defense thereof, including the employment of counsel reasonably satisfactory to the Indemnified Party and the payment of all fees and expenses incurred in connection with defense thereof, provided that the failure of any Indemnified Party to give such notice shall not relieve the Indemnifying Party of its obligations or liabilities pursuant to this Agreement, except (and only) to the extent that it shall be finally determined by a court of competent jurisdiction (which determination is not subject to appeal or further review) that such failure shall have materially and adversely prejudiced the Indemnifying Party.

An Indemnified Party shall have the right to employ separate counsel in any such Proceeding and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party or Parties unless: (1) the Indemnifying Party has agreed in writing to pay such fees and expenses, (2) the Indemnifying Party shall have failed promptly to assume the defense of such Proceeding and to employ counsel reasonably satisfactory to such Indemnified Party in any such Proceeding, or (3) the named parties to any such Proceeding (including any impleaded parties) include both such Indemnified Party and the Indemnifying Party, and counsel to the Indemnified Party shall reasonably believe that a material conflict of interest is likely to exist if the same counsel were to represent such Indemnified Party and the Indemnifying Party (in which case, if such Indemnified Party notifies the Indemnifying Party in writing that it elects to employ separate counsel at the expense of the Indemnifying Party, the Indemnifying Party shall not have the right to assume the defense thereof and the reasonable fees and expenses of no more than one separate counsel shall be at the expense of the Indemnifying Party). The Indemnifying Party shall not be liable for any settlement of any such Proceeding effected without its written consent, which consent shall not be unreasonably withheld or delayed. No Indemnifying Party shall, without the prior written consent of the Indemnified Party, effect any settlement of any pending Proceeding in respect of which any Indemnified Party is a party, unless such settlement includes an unconditional release of such Indemnified Party from all liability on claims that are the subject matter of such Proceeding.

12

Subject to the terms of this Agreement, all reasonable fees and expenses of the Indemnified Party (including reasonable fees and expenses to the extent incurred in connection with investigating or preparing to defend such Proceeding in a manner not inconsistent with this Section) shall be paid to the Indemnified Party, as incurred, within ten Trading Days of written notice thereof to the Indemnifying Party, provided that the Indemnified Party shall promptly reimburse the Indemnifying Party for that portion of such fees and expenses applicable to such actions for which such Indemnified Party is finally determined by a court of competent jurisdiction (which determination is not subject to appeal or further review) not to be entitled to indemnification hereunder.

(d) Contribution. If the indemnification under Section 5(a) or 5(b) is unavailable to an Indemnified Party or insufficient to hold an Indemnified Party harmless for any Losses, then each Indemnifying Party shall contribute to the amount paid or payable by such Indemnified Party, in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party and Indemnified Party in connection with the actions, statements or omissions that resulted in such Losses as well as any other relevant equitable considerations. The relative fault of such Indemnifying Party and Indemnified Party shall be determined by reference to, among other things, whether any action in question, including any untrue or alleged untrue statement of a material fact or omission or alleged omission of a material fact, has been taken or made by, or relates to information supplied by, such Indemnifying Party or Indemnified Party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such action, statement or omission. The amount paid or payable by a party as a result of any Losses shall be deemed to include, subject to the limitations set forth in this Agreement, any reasonable attorneys' or other fees or expenses incurred by such party in connection with any Proceeding to the extent such party would have been indemnified for such fees or expenses if the indemnification provided for in this Section was available to such party in accordance with its terms.

The parties hereto agree that it would not be just and equitable if contribution pursuant to this Section 5(d) were determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to in the immediately preceding paragraph. In no event shall the contribution obligation of a Holder of Registrable Securities be greater in amount than the dollar amount of the proceeds (net of all expenses paid by such Holder in connection with any claim relating to this Section 5 and the amount of any damages such Holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission) received by it upon the sale of the Registrable Securities giving rise to such contribution obligation.

13

The indemnity and contribution agreements contained in this Section are in addition to any liability that the Indemnifying Parties may have to the Indemnified Parties.

6. Miscellaneous.

(a) Remedies. In the event of a breach by the Company or by a Holder of any of their respective obligations under this Agreement, each Holder or the Company, as the case may be, in addition to being entitled to exercise all rights granted by law and under this Agreement, including recovery of damages, shall be entitled to specific performance of its rights under this Agreement. Each of the Company and each Holder agrees that monetary damages would not provide adequate compensation for any losses incurred by reason of a breach by it of any of the provisions of this Agreement and hereby further agrees that, in the event of any action for specific performance in respect of such breach, it shall not assert or shall waive the defense that a remedy at law would be adequate.

(b) No Piggyback on Registrations; Prohibition on Filing Other Registration Statements. Neither the Company nor any of its security holders (other than the Holders in such capacity pursuant hereto) may include securities of the Company in any Registration Statements other than the Registrable Securities. The Company shall not file any other registration statements until all Registrable Securities are registered pursuant to a Registration Statement that is declared effective by the Commission, provided that this Section 6(b) shall not prohibit the Company from filing amendments to registration statements filed prior to the date of this Agreement so long as no new securities are registered on any such existing registration statements.

(c) Discontinued Disposition. By its acquisition of Registrable Securities, each Holder agrees that, upon receipt of a notice from the Company of the occurrence of any event of the kind described in Section 3(d)(iii) through (vi), such Holder will forthwith discontinue disposition of such Registrable Securities under a Registration Statement until it is advised in writing (the "Advice") by the Company that the use of the applicable Prospectus (as it may have been supplemented or amended) may be resumed. The Company will use its best efforts to ensure that the use of the Prospectus may be resumed as promptly as is practicable. The Company agrees and acknowledges that any periods during which the Holder is required to discontinue the disposition of the Registrable Securities hereunder shall be subject to the provisions of Section 2(e).

(d) Piggy Back Registrations. If, at any time during the Effectiveness Period, there is not an effective Registration Statement covering all of the Registrable Securities and the Company shall determine to prepare and file with the Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its equity securities, other than on Form S-4 or Form S-8 (each as promulgated under the Securities Act) or their then equivalents relating to equity securities to be issued solely in connection with any acquisition of any entity or business or equity securities issuable in connection with the Company's stock option or other employee benefit plans, then the Company shall deliver to the Holder a written notice of such determination and, if within fifteen (15) days after the date of the delivery of such notice, any such Holder shall so request in writing, the Company shall include in such registration statement all or any part of such Registrable Securities such Holder requests to be registered; provided, however, that the Company shall not be required to register any Registrable Securities pursuant to this Section 6(d) that are eligible for resale pursuant to Rule 144 (without volume restrictions or current public information requirements) promulgated by the Commission pursuant to the Securities Act or that are the subject of a then effective Registration Statement.

14

(e) Amendments and Waivers. The provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions hereof may not be given, unless the same shall be in writing and signed by the Company and the Holders of 50.1% or more of the then outstanding Registrable Securities (for purposes of clarification, this includes any Registrable Securities issuable upon exercise or conversion of any Security), provided that, if any amendment, modification or waiver disproportionately and adversely impacts a Holder (or group of Holders), the consent of such disproportionately impacted Holder (or group of Holders) shall be required. If a Registration Statement does not register all of the Registrable Securities pursuant to a waiver or amendment done in compliance with the previous sentence, then the number of Registrable Securities to be registered for each Holder shall be reduced pro rata among all Holders and each Holder shall have the right to designate which of its Registrable Securities shall be omitted from such Registration Statement. Notwithstanding the foregoing, a waiver or consent to depart from the provisions hereof with respect to a matter that relates exclusively to the rights of a Holder or some Holders and that does not directly or indirectly affect the rights of other Holders may be given only by such Holder or Holders of all of the Registrable Securities to which such waiver or consent relates; provided, however, that the provisions of this sentence may not be amended, modified, or supplemented except in accordance with the provisions of the first sentence of this Section 6(d). No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of this Agreement unless the same consideration also is offered to all of the parties to this Agreement.

(f) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be delivered as set forth in the Purchase Agreement.

(g) Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of each of the parties and shall inure to the benefit of each Holder. The Company may not assign (except by merger) its rights or obligations hereunder without the prior written consent of all of the Holders of the then outstanding Registrable Securities. Each Holder may assign their respective rights hereunder in the manner and to the Persons as permitted under Section 5.7 of the Purchase Agreement.

15

(h) No Inconsistent Agreements. Neither the Company nor any of its Subsidiaries has entered, as of the date hereof, nor shall the Company or any of its Subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of impairing the rights granted to the Holders in this Agreement or otherwise conflicts with the provisions hereof. Neither the Company nor any of its Subsidiaries has previously entered into any agreement granting any registration rights with respect to any of its securities to any Person that have not been satisfied in full.

(i) Execution and Counterparts. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.

(j) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be determined in accordance with the provisions of the Purchase Agreement.

(k) Cumulative Remedies. The remedies provided herein are cumulative and not exclusive of any other remedies provided by law.

(l) Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal,

void or unenforceable.

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

(n) Independent Nature of Holders' Obligations and Rights. The obligations of each Holder hereunder are several and not joint with the obligations of any other Holder hereunder, and no Holder shall be responsible in any way for the performance of the obligations of any other Holder hereunder. Nothing contained herein or in any other agreement or document delivered at any closing, and no action taken by any Holder pursuant hereto or thereto, shall be deemed to constitute the Holders as a partnership, an association, a joint venture or any other kind of group or entity, or create a presumption that the Holders are in any way acting in concert or as a group or entity with respect to such obligations or the transactions contemplated by this Agreement or any other matters, and the Company acknowledges that the Holders are not acting in concert or as a group, and the Company shall not assert any such claim, with respect to such obligations or transactions. Each Holder shall be entitled to protect and enforce its rights, including without limitation the rights arising out of this Agreement, and it shall not be necessary for any other Holder to be joined as an additional party in any proceeding for such purpose. The use of a single agreement with respect to the obligations of the Company contained was solely in the control of the Company, not the action or decision of any Holder, and was done solely for the convenience of the Company and not because it was required or requested to do so by any Holder. It is expressly understood and agreed that each provision contained in this Agreement is between the Company and a Holder, solely, and not between the Company and the Holders collectively and not between and among Holders.

(Signature Pages Follow)

IN WITNESS WHEREOF, the parties have executed this Registration Rights Agreement as of the date first written above.

ABEONA THERAPEUTICS INC.

By: _____
Name: _____
Title: _____

[SIGNATURE PAGE OF HOLDERS FOLLOWS]

[SIGNATURE PAGE OF HOLDERS TO ABEONA RRA]

Name of Holder: _____

Signature of Authorized Signatory of Holder: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

[SIGNATURE PAGES CONTINUE]



Abeona Therapeutics Announces Pricing of \$25 Million Private Placement of Convertible Redeemable Preferred Stock

NEW YORK, NY and CLEVELAND, OH, April 29, 2022 – Abeona Therapeutics Inc. (Nasdaq: ABEO), a fully-integrated leader in cell and gene therapy, today announced that it has entered into a securities purchase agreement with certain institutional investors to purchase 1,000,006 shares of Series A convertible redeemable preferred stock and 250,005 shares of Series B convertible redeemable preferred stock. Each share of Series A and Series B preferred stock has a purchase price of \$19.00, representing an original issue discount of 5% of the \$20.00 stated value of each share. Each share of Series A and Series B preferred stock is convertible into shares of Abeona's common stock at an initial conversion price of \$0.45 per share. Shares of the Series A and Series B preferred stock are convertible at the option of the holder at any time following the Company's receipt of stockholder approval for a reverse stock split of the Company's common stock. Abeona will be permitted to redeem the Series A preferred stock at its option upon the fulfillment of certain conditions and subject to certain limitations. The Company and the holders of the Series A and Series B preferred stock will also enter into a registration rights agreement to register the resale of the shares of common stock issuable upon conversion of the Series A and Series B preferred stock. Total gross proceeds from the offerings, before deducting discounts, placement agent's fees and other estimated offering expenses, is approximately \$25 million.

The Series A preferred stock permits the holders thereof to vote together with the holders of the Company's common stock and any other shares of capital stock entitled to vote generally as a single class on all matters submitted to a vote of stockholders generally, including any proposal to effectuate a reverse stock split of the Company's common stock at a special meeting of Company stockholders. The Series B preferred stock permits the holders thereof to vote on a proposal to effectuate a reverse stock split of the Company's common stock at a special meeting of Company stockholders, together with the holders of common stock and Series A preferred stock. The Series B preferred stock permits the holder to cast 15,000 votes per share of Series B preferred stock on such proposal. Except as required by law or expressly provided by the certificate of designation, holders of the Series B preferred stock will not be permitted to vote on any other matters. The holders of the Series A and B preferred stock agreed not to transfer, offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of their shares of preferred stock until after the special meeting. The holders of the Series A preferred stock agreed to vote their shares in favor of the reverse stock split proposal and the holders of the Series B preferred stock agreed to vote their shares in the same proportions as the shares of common stock and Series A preferred stock were voted on that proposal. The holders of the Series A and Series B preferred stock have the right to require the Company to redeem their shares of preferred stock for cash at 105% of the stated value of such shares commencing after the earlier of the Company's stockholders' approval of the reverse stock split and 60 days after the closing of the issuances of the Series A and Series B preferred stock and until 90 days after such closing. The Company has the option to redeem the Series A preferred stock for cash at 105% of the stated value commencing 90 days after the closing of the issuance of the Series A preferred stock, subject to the holders' rights to convert the shares prior to a redemption at the option of the Company.

The closing of the offerings is expected to occur on or about May 2, 2022, subject to the satisfaction of customary closing conditions. Additional information regarding the securities described above and the terms of the offering are included in a Current Report on Form 8-K to be filed with the United States Securities and Exchange Commission ("SEC").

A.G.P./Alliance Global Partners is acting as the sole placement agent in connection with the offering.

The Series A and Series B preferred stock and shares of common stock into which these preferred shares are convertible are being issued in reliance upon the exemption from the securities registration afforded by Section 4(a)(2) of the Securities Act of 1933, as amended (the "1933 Act") and/or Rule 506 of Regulation D as promulgated by SEC under the 1933 Act.

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

About Abeona Therapeutics

Abeona Therapeutics Inc. is a clinical-stage biopharmaceutical company developing cell and gene therapies for serious diseases. Abeona's lead clinical program is EB-101, its investigational autologous, gene-corrected cell therapy for recessive dystrophic epidermolysis bullosa in Phase 3 development. The Company's development portfolio also features AAV-based gene therapies for ophthalmic diseases with high unmet medical need. Abeona's novel, next-generation AAV capsids are being evaluated to improve tropism profiles for a variety of devastating diseases. Abeona's fully integrated cell and gene therapy cGMP manufacturing facility produces EB-101 for the pivotal Phase 3 VIITAL™ study and is capable of clinical and potential commercial production of AAV-based gene therapies. For more information, visit www.abeonatherapeutics.com.

Forward-Looking Statements

This press release contains certain statements that are forward-looking within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and that involve risks and uncertainties. We have attempted to identify forward-looking statements by such terminology as "may," "will," "believe," "estimate," "expect," and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances), which constitute and are intended to identify forward-looking statements. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, numerous risks and uncertainties, including but not limited to the potential impacts of the COVID-19 pandemic on our business, operations, and financial condition; continued interest in our rare disease portfolio; our ability to potentially commercialize our EB-101 product candidate; obtaining a strategic partnership to take over development activities for ABO-102; our ability to enroll patients in clinical trials; the outcome of any future meetings with the U.S. Food and Drug Administration or other regulatory agencies; the impact of competition; the ability to secure licenses for any technology that may be necessary to potentially commercialize our product candidates; the ability to achieve or obtain necessary regulatory approvals; the impact of changes in the financial markets and global economic conditions; risks associated with data analysis and reporting; reducing our operating expenses and extending our cash runway; our ability to execute our operating plan and achieve important anticipated milestones; and other risks disclosed in the Company's most recent Annual Report on Form 10-K and other periodic reports filed with the Securities and Exchange Commission. The Company undertakes no obligation to revise the forward-looking statements or to update them to reflect events or circumstances occurring after the date of this press release, whether as a result of new information, future developments or otherwise, except as required by the federal securities laws.

Investor and Media Contact:

Greg Gin
VP, Investor Relations and Corporate Communications
ir@abeonatherapeutics.com