

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

**FORM 8-K**

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

Date of Report (Date of earliest event reported): July 22, 2024

**TRANSCODE THERAPEUTICS, INC.**  
(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction  
of incorporation)

001-40363  
(Commission  
File Number)

81-1065054  
(I.R.S. Employer  
Identification No.)

TransCode Therapeutics, Inc.  
6 Liberty Square, #2382  
Boston, Massachusetts 02109  
(Address of principal executive offices, including zip code)

(857) 837-3099  
(Registrant's telephone number, including area code)

Not Applicable  
(Former Name or Former Address, if Changed Since Last Report)

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

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

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.0001 per share	RNAZ	The Nasdaq Capital Market

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

Emerging growth company

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

### **Item 1.01 Entry into a Material Definitive Agreement.**

On July 22, 2024, TransCode Therapeutics, Inc., a Delaware corporation (the “Company”), entered into a Placement Agency Agreement (the “Agreement”) with ThinkEquity LLC, pursuant to which the Company agreed to issue and sell directly to various investors, in a best efforts public offering (the “Offering”), an aggregate of 10,000,000 shares of the Company’s common stock, par value \$0.0001 per share (the “Common Stock”), at an offering price of \$0.30 per share of Common Stock. The Company is expected to receive gross proceeds of \$3.0 million in connection with the Offering, before deducting placement agent fees and other offering expenses payable by the Company. The Offering is expected to close on July 24, 2024.

The 10,000,000 shares of Common Stock sold in the Offering were offered and sold pursuant to a registration statement on Form S-3 (File No. 333-268764), which was filed with the Securities and Exchange Commission (the “Commission”) on December 13, 2022, and was declared effective by the Commission on December 16, 2022 (the “Registration Statement”). A copy of the opinion of Goodwin Procter LLP relating to the legality of the issuance and sale of the Shares in the Offering is attached as Exhibit 5.1 hereto.

As part of its compensation for acting as placement agent for the Offering, the Company also agreed to issue to the placement agent, warrants to purchase 500,000 shares of Common Stock (the “Placement Agent Warrants”). The Placement Agent Warrants are exercisable commencing January 18, 2025, expire July 22, 2029 and have an exercise price of \$0.375 per share. The Placement Agent Warrants, and the shares of Common Stock issuable upon exercise thereof, will be issued in reliance on the exemption from registration provided in Section 4(a)(2) under the Securities Act of 1933, as amended.

The representations, warranties and covenants contained in the Agreement were made solely for the benefit of the parties to the Agreement. In addition, such representations, warranties and covenants (i) are intended as a way of allocating the risk between the parties to the Agreement and not as statements of fact, and (ii) may apply standards of materiality in a way that is different from what may be viewed as material by stockholders of, or other investors in, the Company. Moreover, information concerning the subject matter of the representations and warranties may change after the date of the Agreement, which subsequent information may or may not be fully reflected in public disclosures.

This Report on Form 8-K shall not constitute an offer to sell or the solicitation of an offer to buy securities, nor shall there be any sale of securities in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or other jurisdiction.

The foregoing descriptions of the Agreement and Placement Agent Warrants are not complete and are qualified in their entirety by references to the full text of the Form of Agreement and Form of Placement Agent Warrant which are filed as exhibits to this report and are incorporated by reference herein.

### **Item 3.02**

#### **Unregistered Sales of Equity Securities.**

The disclosure set forth in Item 1.01 of this Current Report on Form 8-K regarding the Placement Agent Warrants and the shares issuable thereunder are hereby incorporated by reference.

### **Item 8.01 Other Events.**

On July 22, 2024, the Company issued a press release announcing the Offering.

On July 23, 2024, the Company issued a press release announcing the pricing of the Offering.

Copies of the press releases are attached as Exhibits 99.1 and 99.2, respectively, to this Current Report on Form 8-K and are incorporated herein by reference.

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**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

Exhibit No.	Description
<a href="#">4.1</a>	<a href="#">Form of Placement Agent Warrant</a>
<a href="#">5.1</a>	<a href="#">Opinion of Goodwin Procter LLP</a>
<a href="#">10.1</a>	<a href="#">Form of Placement Agency Agreement</a>
<a href="#">23.1</a>	<a href="#">Consent of Goodwin Procter LLP (included in Exhibit 5.1)</a>
<a href="#">99.1</a>	<a href="#">Press Release, dated July 22, 2024</a>
<a href="#">99.2</a>	<a href="#">Press Release, dated July 23, 2024</a>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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**SIGNATURE**

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.

**TransCode Therapeutics, Inc.**

Date: July 24, 2024

By: /s/ Thomas A. Fitzgerald  
Thomas A. Fitzgerald  
Chief Financial Officer

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## Form of Representative's Warrant Agreement

NEITHER THIS PURCHASE WARRANT NOR THE SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE HEREOF HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER SECURITIES LAWS. THE REGISTERED HOLDER OF THIS PURCHASE WARRANT, BY ITS ACCEPTANCE HEREOF, AGREES THAT IT WILL NOT SELL, TRANSFER OR ASSIGN THIS PURCHASE WARRANT EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT COVERING THIS PURCHASE WARRANT OR PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT AND OTHERWISE AS HEREIN PROVIDED AND THE REGISTERED HOLDER OF THIS PURCHASE WARRANT, BY ITS ACCEPTANCE HEREOF, AGREES THAT IT WILL NOT SELL, TRANSFER OR ASSIGN THIS PURCHASE WARRANT EXCEPT AS HEREIN PROVIDED AND THE REGISTERED HOLDER OF THIS PURCHASE WARRANT AGREES THAT IT WILL NOT SELL, TRANSFER, ASSIGN, PLEDGE OR HYPOTHECATE THIS PURCHASE WARRANT FOR A PERIOD OF ONE HUNDRED EIGHTY DAYS FOLLOWING THE EFFECTIVE DATE (DEFINED BELOW) TO ANYONE OTHER THAN (I) THINKEQUITY LLC, OR A PLACEMENT AGENT OR A SELECTED DEALER IN CONNECTION WITH THE OFFERING, OR (II) A BONA FIDE OFFICER OR PARTNER OF THINKEQUITY LLC OR OF ANY SUCH PLACEMENT AGENT OR SELECTED DEALER.

THIS PURCHASE WARRANT IS NOT EXERCISABLE PRIOR TO [\_\_\_\_\_] [DATE THAT IS 180 DAYS FROM THE EFFECTIVE DATE OF THE OFFERING]. VOID AFTER 5:00 P.M., EASTERN TIME, [\_\_\_\_\_] [DATE THAT IS FIVE YEARS FROM THE EFFECTIVE DATE OF THE OFFERING].

Certificate No. [\_\_]

## WARRANT TO PURCHASE COMMON STOCK

TRANSCODE THERAPEUTICS, INC.

Warrant Shares: \_\_\_\_\_

Initial Exercise Date: \_\_\_\_\_, 2025

THIS WARRANT TO PURCHASE COMMON STOCK (the "**Warrant**") certifies that, for value received, \_\_\_\_\_ or its assigns (the "**Holder**") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after \_\_\_\_\_, 2025 (the "**Initial Exercise Date**") and, in accordance with FINRA Rule 5110(g)(8)(A), prior to at 5:00 p.m. (New York time) on the date that is five (5) years following the Effective Date (the "**Termination Date**") but not thereafter, to subscribe for and purchase from TransCode Therapeutics, Inc., a Delaware corporation (the "**Company**"), up to \_\_\_\_\_ shares of Common Stock, par value \$0.0001 per share, of the Company (the "**Warrant Shares**"), as subject to adjustment hereunder. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

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Section 1. Definitions. In addition to the terms defined elsewhere in this Agreement, the following terms have the meanings indicated in this Section 1:

“**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.

“**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.

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

“**Effective Date**” means the date of the prospectus supplement to the prospectus forming a part of the registration statement on Form S-3 (File No. 333-268764), for the registration of the offering of the Company’s common stock, par value \$0.0001 per share and/or pre-funded warrants to purchase the Company’s common stock in lieu thereof.

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

“**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.

“**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.

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

“**Trading Day**” means a day on which the Nasdaq Capital 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, or the New York Stock Exchange (or any successors to any of the foregoing).

“**VWAP**” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of a share of Common Stock for such date (or the nearest preceding date) on the OTCQB or OTCQX as applicable, (c) if Common Stock is not then listed or quoted for trading on the OTCQB or OTCQX and if prices for Common Stock are then reported in the “Pink Sheets” published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of Common Stock so reported, or (d) in all other cases, the fair market value of the Common Stock as determined by an independent appraiser selected in good faith by the Holder and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

Section 2. Exercise.

a) Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy (or e-mail attachment) of the Notice of Exercise Form annexed hereto. Within one (1) Trading Day following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within five (5) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise Form within one (1) Trading Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$\_\_\_\_\_ <sup>1</sup>, subject to adjustment hereunder (the "**Exercise Price**").

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<sup>1</sup> 125% of the public offering price per share of common stock in the offering.

c) Cashless Exercise. In lieu of exercising this Warrant by delivering the aggregate Exercise Price by wire transfer or cashier's check, at the election of the Holder this Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive the number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 2(a) or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) after the close of "regular trading hours" on such Trading Day;

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

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

If Warrant Shares are issued in such a "cashless exercise," the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 2(c).

Notwithstanding anything herein to the contrary, on the Termination Date, this Warrant shall be automatically exercised via cashless exercise pursuant to this Section 2(c).



d) Mechanics of Exercise.

(i) Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by its transfer agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by Holder, or (B) the Warrant Shares are eligible for resale by the Holder without volume or manner-of-sale limitations pursuant to Rule 144 and, in either case, the Warrant Shares have been sold by the Holder prior to the Warrant Share Delivery Date (as defined below), and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is one (1) Trading Day after the delivery to the Company of the Notice of Exercise (such date, the "**Warrant Share Delivery Date**"); *provided, however*, that if payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received after 12:00 P.M., New York City time on the Warrant Share Delivery Date, then the Warrant Share Delivery Date shall be extended by one (1) additional Trading Day. If the Warrant Shares can be delivered via DWAC, the transfer agent shall have received from the Company, at the expense of the Company, any legal opinions or other documentation required by it to deliver such Warrant Shares without legend (subject to receipt by the Company of reasonable back up documentation from the Holder, including with respect to affiliate status) and, if applicable and requested by the Company prior to the Warrant Share Delivery Date, the transfer agent shall have received from the Holder a confirmation of sale of the Warrant Shares (provided the requirement of the Holder to provide a confirmation as to the sale of Warrant Shares shall not be applicable to the issuance of unlegended Warrant Shares upon a cashless exercise of this Warrant if the Warrant Shares are then eligible for resale pursuant to Rule 144(b)(1)). The Warrant Shares shall be deemed to have been issued, and Holder or any other person so designated to be named therein shall be deemed to have become a holder of record of such shares for all purposes, as of the date the Warrant has been exercised, with payment to the Company of the Exercise Price (or by cashless exercise, if permitted) and all taxes required to be paid by the Holder, if any, pursuant to Section 2(d)(vi) prior to the issuance of such shares, having been paid. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Trading Day following the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after the Trading Day following such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise.

(ii) Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(iii) Rescission Rights. If the Company fails to cause its transfer agent to deliver to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise; *provided, however*, that the Holder shall be required to return any Warrant Shares or Common Stock subject to any such rescinded exercise notice concurrently with the return to Holder of the aggregate Exercise Price paid to the Company for such Warrant Shares and the restoration of Holder's right to acquire such Warrant Shares pursuant to this Warrant (including, issuance of a replacement warrant certificate evidencing such restored right).

(iv) Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause its transfer agent to transmit to the Holder the Warrant Shares pursuant to an exercise on or before the Warrant Share Delivery Date, and if after such date the Holder is required by its broker 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 the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(v) No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

(vi) Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; *provided, however,* that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all transfer agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

(vii) Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(viii) Signature. This Section 2 and the exercise form attached hereto set forth the totality of the procedures required of the Holder in order to exercise this Warrant. Without limiting the preceding sentences, no ink-original exercise form shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any exercise form be required in order to exercise this Warrant. No additional legal opinion, other information or instructions shall be required of the Holder to exercise this Warrant. The Company shall honor exercises of this Warrant and shall deliver Shares underlying this Warrant in accordance with the terms, conditions and time periods set forth herein.

e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Company's transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The "**Beneficial Ownership Limitation**" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 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 exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61<sup>st</sup> day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(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 reclassification. For the purposes of clarification, the Exercise Price of this Warrant will not be adjusted in the event that the Company or any Subsidiary thereof, as applicable, sells or grants any option to purchase, or sell or grant any right to reprice, or otherwise dispose of or issue (or announce any offer, sale, grant or any option to purchase or other disposition) any Common Stock or Common Stock Equivalents, at an effective price per share less than the Exercise Price then in effect.

b) [RESERVED]

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a), if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the “**Purchase Rights**”), then 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 exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (*provided, however*, 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).

d) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend (other than cash dividends) or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of shares or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “**Distribution**”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (*provided, however*, 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). To the extent that this Warrant has not been partially or completely exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

e) **Fundamental Transaction.** If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group 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 exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “**Alternate Consideration**”) receivable by holders of Common Stock as a result of such Fundamental Transaction for each share of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of 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 exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “**Successor Entity**”) to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(e) pursuant to written agreements in 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 this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable 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 exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise 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 exercise price being for the purpose of protecting the economic value of this Warrant 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 Warrant referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

f) Calculations. All calculations under this Section 3 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 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

g) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly mail to the Holder a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

(ii) Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be mailed a notice to the Holder at its last address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, 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 provide such notice or any defect therein 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 Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

a) Transferability. Pursuant to FINRA Rule 5110(e)(1), neither this Warrant nor any Warrant Shares issued upon exercise of this Warrant shall be sold, transferred, assigned, pledged, or hypothecated, or be the subject of any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the securities by any person for a period of 180 days immediately following the date of effectiveness or commencement of sales of the offering pursuant to which this Warrant is being issued, except the transfer of any security:

- i. by operation of law or by reason of reorganization of the Company;



ii. to any FINRA member firm participating in the offering and the officers or partners thereof, if all securities so transferred remain subject to the lock-up restriction in this Section 4(a) for the remainder of the time period;

iii. if the aggregate amount of securities of the Company held by the Holder or related person do not exceed 1% of the securities being offered;

iv. that is beneficially owned on a pro-rata basis by all equity owners of an investment fund, provided that no participating member manages or otherwise directs investments by the fund, and participating members in the aggregate do not own more than 10% of the equity in the fund; or

v. the exercise or conversion of any security, if all securities received remain subject to the lock-up restriction in this Section 4(a) for the remainder of the time period.

Subject to the foregoing restriction, any applicable securities laws and the conditions set forth in Section 4(d), this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “**Warrant Register**”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

d) Representation by the Holder. The Holder, by the acceptance hereof, represents and warrants that it is acquiring this Warrant and, upon any exercise hereof, will acquire the Warrant Shares issuable upon such exercise, for its own account and not with a view to or for distributing or reselling such Warrant Shares or any part thereof in violation of the Securities Act or any applicable state securities law, except pursuant to sales registered or exempted under the Securities Act.

## Section 5. Registration Rights.

### 5.1. Demand Registration.

5.1.1. Grant of Right. The Company, upon written demand (a “**Demand Notice**”) of the Holder(s) of at least 51% of the Warrants and/or the underlying Warrant Shares (“**Majority Holders**”), agrees to register, on one occasion, all or any portion of the Warrant Shares underlying the Warrants (collectively, the “**Registrable Securities**”). On such occasion, the Company will file a registration statement with the Commission covering the Registrable Securities within sixty (60) days after receipt of a Demand Notice and use its reasonable best efforts to have the registration statement declared effective promptly thereafter, subject to compliance with review by the Commission; *provided, however*, that the Company shall not be required to comply with a Demand Notice if the Company has filed a registration statement with respect to which the Holder is entitled to piggyback registration rights pursuant to Section 5.2 and either: (i) the Holder has elected to participate in the offering covered by such registration statement or (ii) if such registration statement relates to an underwritten primary offering of securities of the Company, until the offering covered by such registration statement has been withdrawn or until thirty (30) days after such offering is consummated. The demand for registration may be made at any time beginning on the Initial Exercise Date and expiring on the fifth anniversary of the Effective Date. The Company covenants and agrees to give written notice of its receipt of any Demand Notice by any Holder(s) to all other registered Holders of the Warrants and/or the Registrable Securities within ten (10) days after the date of the receipt of any such Demand Notice.

5.1.2. Terms. The Company shall bear all fees and expenses attendant to the registration of the Registrable Securities pursuant to Section 5.1.1, but the Holders shall pay any and all underwriting commissions and the expenses of any legal counsel selected by the Holders to represent them in connection with the sale of the Registrable Securities. The Company agrees to use its reasonable best efforts to cause the filing required herein to become effective promptly and to qualify or register the Registrable Securities in such States as are reasonably requested by the Holder(s); *provided, however*, that in no event shall the Company be required to register the Registrable Securities in a State in which such registration would cause: (i) the Company to be obligated to register or license to do business in such State or submit to general service of process in such State, or (ii) the principal shareholders of the Company to be obligated to escrow their shares of capital stock of the Company. The Company shall cause any registration statement filed pursuant to the demand right granted under Section 5.1.1 to remain effective for a period of at least twelve (12) consecutive months after the date that the Holders of the Registrable Securities covered by such registration statement are first given the opportunity to sell all of such securities. The Holders shall only use the prospectuses provided by the Company to sell the Warrant Shares covered by such registration statement, and will immediately cease to use any prospectus furnished by the Company if the Company advises the Holder that such prospectus may no longer be used due to a material misstatement or omission. Notwithstanding the provisions of this Section 5.1.2, the Holder shall be entitled to a demand registration under this Section 5.1.2 on only one (1) occasion and such demand registration right shall terminate on the fifth anniversary of the date of the Placement Agency Agreement (as defined below) in accordance with FINRA Rules 5110(g)(8)(B) and 5110(g)(8)(C).

## 5.2 “Piggy-Back” Registration

5.2.1. Grant of Right. In addition to the demand right of registration described in Section 5.1, the Holder shall have the right, for a period of no more than two (2) years from the Initial Exercise Date in accordance with FINRA Rule 5110(g)(8)(D), to include the Registrable Securities as part of any other registration of securities filed by the Company (other than in connection with a transaction contemplated by Rule 145(a) promulgated under the Securities Act or pursuant to Form S-8 or any equivalent form); *provided, however*, that if, solely in connection with any primary underwritten public offering for the account of the Company, the managing underwriter(s) thereof shall, in its reasonable discretion, impose a limitation on the number of Shares which may be included in the Registration Statement because, in such underwriter(s)’ judgment, marketing or other factors dictate such limitation is necessary to facilitate public distribution, then the Company shall be obligated to include in such Registration Statement only such limited portion of the Registrable Securities with respect to which the Holder requested inclusion hereunder as the underwriter shall reasonably permit. Any exclusion of Registrable Securities shall be made pro rata among the Holders seeking to include Registrable Securities in proportion to the number of Registrable Securities sought to be included by such Holders; *provided, however*, that the Company shall not exclude any Registrable Securities unless the Company has first excluded all outstanding securities, the holders of which are not entitled to inclusion of such securities in such Registration Statement or are not entitled to pro rata inclusion with the Registrable Securities.

5.2.2. Terms. The Company shall bear all fees and expenses attendant to registering the Registrable Securities pursuant to Section 5.2.1, but the Holders shall pay any and all underwriting commissions and the expenses of any legal counsel selected by the Holders to represent them in connection with the sale of the Registrable Securities. In the event of such a proposed registration, the Company shall furnish the then Holders of outstanding Registrable Securities with not less than thirty (30) days written notice prior to the proposed date of filing of such registration statement. Such notice to the Holders shall continue to be given for each registration statement filed by the Company during the two (2) year period following the Initial Exercise Date until such time as all of the Registrable Securities have been sold by the Holder. The holders of the Registrable Securities shall exercise the “piggy-back” rights provided for herein by giving written notice within ten (10) days of the receipt of the Company’s notice of its intention to file a registration statement. Except as otherwise provided in this Warrant, there shall be no limit on the number of times the Holder may request registration under this Section 5.2.2; *provided, however*, that such registration rights shall terminate on the second anniversary of the Initial Exercise Date.

### 5.3 General Terms

5.3.1 Indemnification. The Company shall indemnify the Holder(s) of the Registrable Securities to be sold pursuant to any registration statement hereunder and each person, if any, who controls such Holders within the meaning of Section 15 of the Securities Act or Section 20 (a) of the Exchange Act against all loss, claim, damage, expense or liability (including all reasonable attorneys' fees and other expenses reasonably incurred in investigating, preparing or defending against any claim whatsoever) to which any of them may become subject under the Securities Act, the Exchange Act or otherwise, arising from such registration statement but only to the same extent and with the same effect as the provisions pursuant to which the Company has agreed to indemnify the placement agents contained in Section [5.1] of the Placement Agency Agreement between the Placement Agent party thereto and the Company, dated as of [\_\_\_], 2024 (the "**Placement Agency Agreement**"). The Holder(s) of the Registrable Securities to be sold pursuant to such registration statement, and their successors and assigns, shall severally, and not jointly, indemnify the Company, against all loss, claim, damage, expense or liability (including all reasonable attorneys' fees and other expenses reasonably incurred in investigating, preparing or defending against any claim whatsoever) to which they may become subject under the Securities Act, the Exchange Act or otherwise, arising from information furnished by or on behalf of such Holders, or their successors or assigns, in writing, for specific inclusion in such registration statement.

5.3.2. Exercise of Warrants. Nothing contained in this Warrant shall be construed as requiring the Holder(s) to exercise their Warrants prior to or after the initial filing of any registration statement or the effectiveness thereof.

5.3.3. Documents Delivered to Holders. The Company shall furnish to each Holder participating in any of the foregoing offerings and to each underwriter of any such offering, if any, a signed counterpart, addressed to such Holder or underwriter, of: (i) an opinion of counsel to the Company, dated the effective date of such registration statement (and, if such registration includes an underwritten public offering, an opinion dated the date of the closing under any underwriting agreement related thereto), and (ii) a "cold comfort" letter dated the effective date of such registration statement (and, if such registration includes an underwritten public offering, a letter dated the date of the closing under the underwriting agreement) signed by the independent registered public accounting firm which has issued a report on the Company's financial statements included in such registration statement, in each case covering substantially the same matters with respect to such registration statement (and the prospectus included therein) and, in the case of such accountants' letter, with respect to events subsequent to the date of such financial statements, as are customarily covered in opinions of issuer's counsel and in accountants' letters delivered to underwriters in underwritten public offerings of securities. The Company shall also deliver promptly to each Holder participating in the offering requesting the correspondence and memoranda described below and to the managing underwriter, if any, copies of all correspondence between the Commission and the Company, its counsel or auditors and all memoranda relating to discussions with the Commission or its staff with respect to the registration statement and permit each Holder and underwriter to do such investigation, upon reasonable advance notice, with respect to information contained in or omitted from the registration statement as it deems reasonably necessary to comply with applicable securities laws or rules of FINRA. Such investigation shall include access to books, records and properties and opportunities to discuss the business of the Company with its officers and independent auditors, all to such reasonable extent and at such reasonable times as any such Holder shall reasonably request.

5.3.4 Underwriting Agreement. The Company shall enter into an underwriting agreement with the managing underwriter(s), if any, selected by any Holders whose Registrable Securities are being registered pursuant to this Section 5, which managing underwriter shall be reasonably satisfactory to the Company. Such agreement shall be reasonably satisfactory in form and substance to the Company, each Holder and such managing underwriters, and shall contain such representations, warranties and covenants by the Company and such other terms as are customarily contained in agreements of that type used by the managing underwriter. The Holders shall be parties to any underwriting agreement relating to an underwritten sale of their Registrable Securities and may, at their option, require that any or all the representations, warranties and covenants of the Company to or for the benefit of such underwriters shall also be made to and for the benefit of such Holders. Such Holders shall not be required to make any representations or warranties to or agreements with the Company or the underwriters except as they may relate to such Holders, their Warrant Shares and their intended methods of distribution.

5.35 Documents to be Delivered by Holder(s). Each of the Holder(s) participating in any of the foregoing offerings shall furnish to the Company a completed and executed questionnaire provided by the Company requesting information customarily sought of selling security holders.

5.3.6 Damages. Should the registration or the effectiveness thereof required by Sections 5.1 and 5.2 be delayed by the Company or the Company otherwise fails to comply with such provisions, the Holder(s) shall, in addition to any other legal or other relief available to the Holder(s), be entitled to obtain specific performance or other equitable (including injunctive) relief against the threatened breach of such provisions or the continuation of any such breach, without the necessity of proving actual damages and without the necessity of posting bond or other security.

Section 6. Miscellaneous.

a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i).

b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then, such action may be taken or such right may be exercised on the next succeeding Trading Day.

d) Authorized Shares.

The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

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

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

e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Placement Agency Agreement.

f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered, and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant or the Placement Agency Agreement, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Placement Agency Agreement.

i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

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(Signature Page Follows)



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

**TRANSCODE THERAPEUTICS, INC.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**NOTICE OF EXERCISE**

TO: TRANSCODE THERAPEUTICS, INC.

\_\_\_\_\_

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

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

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

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

\_\_\_\_\_

The Warrant Shares shall be delivered to the following DWAC Account Number or by physical delivery of a certificate to:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(4) Accredited Investor. If the Warrant is being exercised via cash exercise, the undersigned is an “accredited investor” as defined in Regulation D promulgated under the Securities Act of 1933, as amended

[SIGNATURE OF HOLDER]

Name of Investing Entity:

*Signature of Authorized Signatory of Investing Entity:*

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:

**ASSIGNMENT FORM**

(To assign the foregoing warrant, execute this form and supply required information. Do not use this form to exercise the warrant.)

FOR VALUE RECEIVED, [\_\_\_\_] all of or [\_\_\_\_\_] shares of the foregoing Warrant and all rights evidenced thereby are hereby assigned to

\_\_\_\_\_ whose address is  
\_\_\_\_\_  
\_\_\_\_\_.

Dated: \_\_\_\_\_, \_\_\_\_\_

Holder's Signature: \_\_\_\_\_

Holder's Address: \_\_\_\_\_  
\_\_\_\_\_

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

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Goodwin Procter LLP  
The New York Times Building  
620 Eight Avenue  
New York, NY 10018

goodwinlaw.com  
+1 617 570 1000

July 24, 2024

TransCode Therapeutics, Inc.  
6 Liberty Square, #2382  
Boston, MA 02109

Re: Securities Registered under Registration Statement on Form S-3

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-3 (File No. 333-268764) (as amended or supplemented, the "Registration Statement") filed on December 13, 2022, with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration of the offer by TransCode Therapeutics, Inc., a Delaware corporation (the "Company"), of up to \$150,000,000 of any combination of securities of the types specified therein. The Registration Statement was declared effective by the Commission on December 16, 2022. Reference is made to our opinion letter dated December 13, 2022, and included as Exhibit 5.1 to the Registration Statement. We are delivering this supplemental opinion letter in connection with the prospectus supplement (the "Prospectus Supplement") filed on July 24, 2024, by the Company with the Commission pursuant to Rule 424 under the Securities Act. The Prospectus Supplement relates to the offering by the Company of up to 10,000,000 shares of the Company's common stock, par value \$0.0001 per share (the "Shares"), covered by the Registration Statement. The shares are being sold to several purchasers in reliance solely on the Registration Statement and the Prospectus Supplement.

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinion set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

Based on the foregoing, we are of the opinion that:

1. The Shares have been duly authorized and, when delivered and paid for in accordance with the terms of the Prospectus Supplement, will be validly issued, fully paid and non-assessable.
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TransCode Therapeutics, Inc.  
July 24, 2024  
Page 2

This opinion letter and the opinions it contains shall be interpreted in accordance with the Core Opinion Principles as published in *74 Business Lawyer* 815 (Summer 2019).

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm under the caption “Legal Matters” in the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Goodwin Procter LLP

GOODWIN PROCTER LLP

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## PLACEMENT AGENCY AGREEMENT

July 22, 2024

ThinkEquity LLC  
17 State Street, 41<sup>st</sup> Fl  
New York, NY 10004

Ladies and Gentlemen:

**Introductory.** This Placement Agency Agreement the (“**Agreement**”) sets forth the terms upon which ThinkEquity LLC (“**ThinkEquity**” or the “**Placement Agent**”) shall be engaged by TransCode Therapeutics, Inc., a Delaware corporation (the “**Company**”), to act as the exclusive Placement Agent in connection with the offering (hereinafter referred to as the “**Offering**”) of up to 10,000,000 shares (the “**Shares**”) of the Company’s common stock, \$0.0001 par value per share (the “**Common Stock**”), and/or pre-funded common stock purchase warrants to purchase one share of Common Stock (the “**Pre-Funded Warrants**”), and together with the shares of Common Stock underlying the Pre-Funded Warrants, the “**Warrant Shares**,” and the Shares, the Pre-Funded Warrants, and the Warrant Shares, the “**Securities**”) directly to various investors (each, an “**Investor**” and, collectively, the “**Investors**”). The purchase price to the Investors for each Share is \$0.30 (the “**Share Offering Price**”), the purchase price to the Investors for each Pre-Funded Warrant is \$0.299 and the exercise price to the Investor for each share of Common Stock issuable upon exercise of the Pre-Funded Warrants is \$0.001. The Placement Agent may retain other brokers or dealers to act as sub-agents or selected dealers on its behalf in connection with the Offering.

1. Agreement to Act as Placement Agent; Closing; Placement Agent Compensation.

1.1 On the basis of the representations, warranties and agreements of the Company herein contained, and subject to all the terms and conditions of this Agreement between the Company and the Placement Agent, the Placement Agent is appointed as the Company’s exclusive placement agent subject to the terms and conditions contained herein. On the basis of such representations and warranties and subject to such terms and conditions, the Placement Agent hereby accepts such appointment and agrees to perform the services hereunder diligently and in good faith and in a professional and businesslike manner and to use its commercially reasonable efforts to assist the Company in finding subscribers of the Securities and to complete the Offering. The Placement Agent has no obligation to purchase any of the Securities. Unless sooner terminated in accordance with this Agreement, the engagement of the Placement Agent hereunder shall continue until the earlier of the date of termination under Section 7.3 or the date of Closing. The Offering will be made on a “reasonable best efforts” basis. The Placement Agent may retain other brokers or dealers to act as sub-placement agents on its behalf in connection with the Offering, with any fees they may be entitled to being paid out of the fee paid to such Placement Agent pursuant to Section 1.6.

1.2 [Reserved].

1.3 Payment of the aggregate purchase price paid by any and all Investors less the Cash Fee, the Non-Accountable Expenses and the other accountable expenses payable in accordance with Section 3.10 of this Agreement (the “**Purchase Price**”) for, and delivery of, the Securities (the “**Closing**”) shall be made at the offices of Troutman Pepper Hamilton Sanders LLP (“**Placement Agent Counsel**”), 301 S. College Street, 34th Floor, Charlotte, NC 28202, or at such other place as shall be agreed upon by the Placement Agent and the Company, at 10:00 a.m. (New York City time) on July 24, 2024, or such other time not later than ten Business Days after such date as shall be agreed upon by the Placement Agent and the Company (such time and date of payment and delivery being herein called “**Closing Date**”). The term “**Business Day**” means any day other than a Saturday, a Sunday or a legal holiday or a day on which banking institutions are authorized or obligated by law to close in New York, New York.

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1.4 On the Closing Date, (i) the Purchase Price will be released to the Company either (a) by the Placement Agent on behalf of each Investor for the Securities to be issued and sold to such Investor at the Closing, by wire transfer of immediately available funds in accordance with the flow of funds letter regarding the Closing, or (b) by the Investor wiring the Purchase Price to the Company by wire transfer to an account designated in writing by the Company, and (ii) the Company shall (A) cause its transfer agent (together with any subsequent transfer agent, the “**Transfer Agent**”) through the Depository Trust Company (“**DTC**”) Fast Automated Securities Transfer Program, to credit such aggregate number of Shares that each Investor is purchasing as set forth in the flow of funds letter regarding the Closing to either (a) the Placement Agent’s balance account with DTC through its Deposit/Withdrawal at Custodian system, or (b) directly to the account of each Investor or its respective nominee(s), at the designated account with DTC as provided on the flow of funds letter (if applicable) and (ii) the Pre-Funded Warrants shall be delivered to each Investor or to the Placement Agent on behalf of the Investor. All actions taken at the Closing shall be deemed to have occurred simultaneously on the Closing Date. Any Securities for which payment has not been received by the Company, to the extent they have been delivered to the Placement Agent or any such Investor, shall be returned to the Company.

1.5 No Securities which the Company has agreed to sell pursuant to this Agreement shall be deemed to have been purchased and paid for, or issued and sold by the Company, until the appropriate corresponding number of Securities shall have been delivered to the Investors or the Placement Agent against payment therefor. If the Company shall default in its obligations to deliver the Securities to the Investors or the Placement Agent on behalf of such Investors as per such instructions, the Company shall indemnify and hold the Placement Agent harmless against any loss, claim, damage or liability directly or indirectly arising from or as a result of such default by the Company.

1.6 As compensation for services rendered, on the Closing Date, the Company shall pay to the Placement Agent the following:

1.6.1. A cash fee (the “**Cash Fee**”) equal to 7.0% of the aggregate purchase price paid by the Investors in respect of the Securities purchased at the Closing, which fees shall be deducted from the Purchase Price payable at Closing.

1.6.2. A non-accountable expense allowance (“**Non-Accountable Expenses**”) equal to one percent (1.0%) of the gross proceeds received by the Company from the sale of the Securities, less the Advance (as such term is defined in Section 7.3), which fees shall be deducted from the Purchase Price payable at Closing, provided, however, that in the event that the Offering is terminated, the Company agrees to reimburse the Placement Agent pursuant to Section 7.3.

1.6.3. A warrant (“**Placement Agent’s Warrant**”) for the purchase of 500,000 shares of Common Stock, representing 5% of the Shares and Pre-Funded Warrants purchased at the Closing, for an aggregate purchase price of \$100.00. The Placement Agent’s Warrant agreement, in the form attached hereto as Exhibit A (the “**Placement Agent’s Warrant Agreement**”), shall be exercisable, in whole or in part, commencing on a date which is one hundred eighty (180) days after the date hereof and expiring on the five-year anniversary of the date hereof at an initial exercise price per share of Common Stock of \$0.375, which is equal to 125% of the Share Offering Price. The Placement Agent’s Warrants shall not be transferable for six months from the date of the Offering except as permitted by Financial Industry Regulatory Authority (“**FINRA**”) Rule 5110(e)(2). The Placement Agent’s Warrant Agreement and the shares of Common Stock issuable upon exercise thereof are hereinafter referred to together as the “**Placement Agent’s Securities**”.

1.7 The Company hereby acknowledges that (i) the Offering, including the determination of the offering price of the Common Stock and any related discounts, commissions and fees, shall be an arm's-length commercial transaction between the Company and the Investors, (ii) the Placement Agent will be acting as an independent contractor and will not be the agent or fiduciary of the Company or its shareholders, creditors, employees, the Investors or any other party, (iii) the Placement Agent shall not assume an advisory or fiduciary responsibility in favor of the Company (irrespective of whether the Placement Agent has advised or is currently advising the Company on other matters) and the Placement Agent shall not have any obligation to the Company with respect to the Offering, except as may be set forth expressly herein, (iv) the Placement Agent and its affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company and (v) the Placement Agent will not provide any legal, accounting, regulatory or tax advice with respect to the Offering, and the Company shall consult its own legal, accounting, regulatory and tax advisors to the extent it deems appropriate.

1.8 The Company is and will be solely responsible for the contents of any and all written or oral communications provided to the Investors regarding the Offering or the Securities; and the Company recognizes that the Placement Agent, in acting pursuant to this Agreement, will be using information provided by the Company and its agents and the Placement Agent assumes no responsibility for, and may rely, without independent verification, on the accuracy and completeness of any such information.

1.9 The Company agrees that any information or advice rendered by the Placement Agent in connection with this engagement is for the confidential use of the Board of Directors of the Company (the "**Board**") and management of the Company only and the Company will not, and will not permit any third party to, disclose or otherwise refer to such advice or information, in any manner without the Placement Agent's prior written consent.

2. Representations and Warranties of the Company. The Company represents and warrants to the Placement Agent as of the Applicable Time (as defined below) and as of the Closing Date as follows:

2.1 Filing of Registration Statement.

2.1.1 Pursuant to the Securities Act. The Company has filed with the U.S. Securities and Exchange Commission (the "**Commission**") a "shelf" registration statement on Form S-3 (File No. 333-268764), including any related prospectus or prospectuses, for the registration of the offer and sale of the Securities under the Securities Act of 1933, as amended (the "**Securities Act**"), which registration statement was prepared by the Company in all material respects in conformity with the requirements of the Securities Act and the rules and regulations of the Commission under the Securities Act (the "**Securities Act Regulations**") and contains and will contain all statements that are required to be stated therein in accordance with the Securities Act and the Securities Act Regulations. Except as the context may otherwise require, such registration statement on file with the Commission at any given time, including any amendments thereto to such time, exhibits and schedules thereto at such time, documents filed as a part thereof or incorporated pursuant to Item 12 of Form S-3 under the Securities Act at such time and the documents and information otherwise deemed to be a part thereof or included therein pursuant to Rule 430B of the Securities Act Regulations (the "**Rule 430B Information**") or otherwise pursuant to the Securities Act Regulations at such time, is referred to herein as the "**Registration Statement**." The Registration Statement at the time it originally became effective is referred to herein as the "**Initial Registration Statement**." If the Company files any registration statement pursuant to Rule 462(b) of the Securities Act Regulations, then after such filing, the term "Registration Statement" shall include such registration statement filed pursuant to Rule 462(b). The Registration Statement was declared effective by the Commission on December 16, 2022 (the "**Effective Date**").



The prospectus dated December 13, 2022 in the form in which was filed with the Commission pursuant to Rule 424(b)(3) on December 13, 2022 in connection with the Initial Registration Statement is herein called the “**Base Prospectus**.” Each preliminary prospectus supplement to the Base Prospectus (including the Base Prospectus as so supplemented) that described the Securities and the Offering and omitted the Rule 430B Information and that was used prior to the filing of the final prospectus supplement referred to in the following paragraph is herein called a “**Preliminary Prospectus**.”

Promptly after the execution and delivery of this Agreement, the Company will prepare and file with the Commission a final prospectus supplement to the Base Prospectus relating to the Securities and the Offering in accordance with the provisions of Rule 430B and Rule 424(b) of the Securities Act Regulations. Such final prospectus supplement (including the Base Prospectus as so supplemented), in the form filed with the Commission pursuant to Rule 424(b) under the Securities Act is herein called the “**Prospectus**.” Any reference herein to the Base Prospectus, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act as of the date of such prospectus.

“**Applicable Time**” means 7:30 p. m., Eastern time, on the date of this Agreement.

“**Disclosure Package**” means the Preliminary Prospectus dated July 22, 2024, together with the pricing terms and other final terms of the Offering provided to Investors as set forth on Schedule 1 hereto, all considered together.

“**Issuer Free Writing Prospectus**” means any “issuer free writing prospectus,” as defined in Rule 433 of the Securities Act Regulations (“**Rule 433**”), including without limitation any “free writing prospectus” (as defined in Rule 405 of the Securities Act Regulations) relating to the Securities that is (i) required to be filed with the Commission by the Company, (ii) a “road show that is a written communication” within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5) (i) because it contains a description of the Securities or of the Offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g).

“**Issuer General Use Free Writing Prospectus**” means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a “*bona fide* electronic road show,” as defined in Rule 433 (the “**Bona Fide Electronic Road Show**”)), as evidenced by its being specified in Schedule 2 hereto.

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

2.1.2 Pursuant to the Exchange Act. The Company has filed with the Commission a Form 8-A12B (File Number 001-40363) providing for the registration pursuant to Section 12(b) under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), of the shares of Common Stock. The registration of the shares of Common Stock under the Exchange Act has been declared effective by the Commission on or prior to the date hereof. The Company has taken no action designed to, or likely to have the effect of, terminating the registration of the shares of Common Stock under the Exchange Act, nor has the Company received any notification that the Commission is contemplating terminating such registration.

2.2 Stock Exchange Listing. The shares of Common Stock are listed on the Nasdaq Capital Market (the “**Exchange**”) and the Company has taken no action designed to, or likely to have the effect of, delisting the shares of Common Stock from the Exchange, nor has the Company received any notification that the Exchange is contemplating terminating such listing except as described in the Registration Statement, the Disclosure Package and the Prospectus. The Company has submitted the Listing of Additional Shares Notification Form with the Exchange with respect to the Offering of the Securities, and the Exchange has not raised any objection to the submission.

2.3 No Stop Orders, etc. Neither the Commission nor, to the Company's knowledge, any state regulatory authority has issued any order preventing or suspending the use of the Registration Statement, any Preliminary Prospectus or the Prospectus or has instituted or, to the Company's knowledge, threatened to institute, any proceedings with respect to such an order. The Company has complied with each request (if any) from the Commission for additional information.

2.4 Disclosures in Registration Statement.

2.4.1. Compliance with Securities Act and 10b-5 Representation.

(i) Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective (including each deemed effective date with respect to the Placement Agent pursuant to Rule 430B or otherwise under the Securities Act) complied and will comply in all material respects with the requirements of the Securities Act and the Securities Act Regulations. The conditions for use of Form S-3, set forth in the General Instructions thereto, including, but not limited to, General Instruction I.B.6 and other conditions related to the offer and sale of the Securities, have been satisfied. Each Preliminary Prospectus and the Prospectus, at the time each was or will be filed with the Commission, complied and will comply in all material respects with the requirements of the Securities Act and the Securities Act Regulations. Each Preliminary Prospectus delivered to the Placement Agent for use in connection with this Offering and the Prospectus was or will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T promulgated under the Securities Act.

(ii) Neither the Registration Statement nor any amendment thereto, at its effective time, as of the Applicable Time, at the Closing Date, contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.

(iii) The Disclosure Package, as of the Applicable Time and at the Closing Date, did not, does not and will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and each Issuer Limited Use Free Writing Prospectus hereto does not conflict with the information contained in the Registration Statement, any Preliminary Prospectus, the Preliminary Prospectus or the Prospectus, and each such Issuer Limited Use Free Writing Prospectus, as supplemented by and taken together with the Preliminary Prospectus as of the Applicable Time, did not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(iv) Neither the Prospectus nor any amendment or supplement thereto (including any prospectus wrapper), as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b), at the Closing Date, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

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

2.4.2. Disclosure of Agreements. The agreements and documents described in the Registration Statement, the Disclosure Package and the Prospectus conform in all material respects to the descriptions thereof contained or incorporated by reference therein and there are no agreements or other documents required by the Securities Act and the Securities Act Regulations to be described in the Registration Statement, the Disclosure Package and the Prospectus or to be filed with the Commission as exhibits to the Registration Statement, or to be incorporated by reference in the Registration Statement, the Disclosure Package or the Prospectus, that have not been so described or filed or incorporated by reference. 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 (i) that is referred to or incorporated by reference in the Registration Statement, the Disclosure Package and the Prospectus, or (ii) is material to the Company's business, 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 therefor may be brought. None of such agreements or instruments has been assigned by the Company, and neither the Company nor, to 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. Performance by the Company of the material provisions of such agreements or instruments will not result in a violation of any existing applicable law, rule, regulation, ordinance, judgment, order or decree of any governmental or regulatory agency, body, authority or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses (each, a "**Governmental Entity**"), including, without limitation, those relating to environmental laws and regulations. The Company has no subsidiaries and has no other interest, nominal or beneficial, direct or indirect, in any other corporation, joint venture or other business entity.

2.4.3. Prior Securities Transactions. No securities of the Company have been sold by the Company or by or on behalf of, or for the benefit of, any person or persons controlling, controlled by or under common control with the Company, except as disclosed in the Registration Statement, the Disclosure Package and the Preliminary Prospectus.

2.4.4. Regulations. The disclosures in the Registration Statement, the Disclosure Package and the Prospectus concerning the effects of federal, state, local and all foreign regulation on the Offering and the Company's business as currently contemplated are accurate, correct and complete in all material respects and no other such regulations are required to be disclosed in the Registration Statement, the Disclosure Package and the Prospectus which are not so disclosed.

2.4.5. No Other Distribution of Offering Materials. The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the Offering other than any Preliminary Prospectus, the Disclosure Package, the Prospectus and other materials, if any, permitted under the Securities Act and consistent with Section 3.2 below.

## 2.5 Changes After Dates in Registration Statement.

2.5.1. No Material Adverse Change. Since the respective dates as of which information is given in the Registration Statement, the Disclosure Package and the Prospectus, except as otherwise specifically stated therein: (i) there has been no material adverse change in the financial position or results of operations of the Company, nor any change or development that, singularly or in the aggregate, would involve a material adverse change or a prospective material adverse change in or affecting the business, general affairs, management, condition (financial or otherwise), stockholders' equity, results of operations, business, assets, properties or prospects of the Company (a "**Material Adverse Change**"); (ii) there have been no material transactions entered into by the Company, other than as contemplated pursuant to this Agreement; and (iii) no officer or director of the Company has resigned from any position with the Company; and (iv) the Company has not sustained any material loss or interference with its business or properties from fire, explosion, flood, earthquake, hurricane, accident or other calamity.

2.5.2. Recent Securities Transactions, etc. Subsequent to the respective dates as of which information is given in the Registration Statement, the Disclosure Package and the Prospectus, and except as may otherwise be indicated or contemplated herein or disclosed in the Registration Statement, the Disclosure Package and the Prospectus, the Company has not: (i) issued any securities, other than securities issued pursuant to the Company's existing equity incentive or stock option plans for shares of Common Stock issuable upon the exercise of then outstanding options, restricted stock units or convertible securities, or incurred any liability or obligation, direct or contingent, for borrowed money; or (ii) declared or paid any dividend or made any other distribution on or in respect to its capital stock.

2.5.3. Disclosure in Commission Filings. Since January 1, 2022, (i) none of the Company's filings with the Commission contained any untrue statement of a material fact or omitted to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, except to the extent such filings with the Commission were subsequently amended; and (ii) the Company has made all filings with the Commission required under the Exchange Act and the rules and regulations of the Commission promulgated thereunder (the "**Exchange Act Regulations**").

2.6 Independent Accountants. To the knowledge of the Company, WithumSmith+Brown, PC (the "**Auditor**"), whose report is filed with the Commission and included or incorporated by reference in the Registration Statement, the Disclosure Package and the Prospectus, is an independent registered public accounting firm as required by the Securities Act and the Securities Act Regulations and the Public Company Accounting Oversight Board. The Auditor has not, during the periods covered by the financial statements included or incorporated by reference in the Registration Statement, the Disclosure Package and the Prospectus, provided to the Company any non-audit services, as such term is used in Section 10A(g) of the Exchange Act.

2.7 Financial Statements, etc. The financial statements, including the notes thereto and supporting schedules included or incorporated by reference in the Registration Statement, the Disclosure Package and the Prospectus, fairly present the financial position and the results of operations of the Company at the dates and for the periods to which they apply; and such financial statements have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”), consistently applied throughout the periods involved (provided that unaudited interim financial statements are subject to year-end audit adjustments that are not expected to be material in the aggregate and do not contain all footnotes required by GAAP); and the supporting schedules included or incorporated by reference in the Registration Statement, the Disclosure Package or the Prospectus present fairly the information required to be stated therein. Except as included or incorporated by reference therein, no historical or pro forma financial statements or supporting schedules are required to be included or incorporated by reference in the Registration Statement, the Disclosure Package or the Prospectus under the Securities Act or the Securities Act Regulations. The pro forma and pro forma as adjusted financial information and the related notes, if any, included or incorporated by reference in the Registration Statement, the Disclosure Package and the Prospectus have been properly compiled and prepared in accordance with the applicable requirements of the Securities Act, the Securities Act Regulations, the Exchange Act and the Exchange Act Regulations and present fairly the information shown therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. All disclosures contained in the Registration Statement, the Disclosure Package or the Prospectus, or incorporated or deemed incorporated by reference therein, regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of the Commission), if any, comply with Regulation G of the Exchange Act and Item 10 of Regulation S-K of the Securities Act, to the extent applicable. Each of the Registration Statement, the Disclosure Package and the Prospectus discloses all material off-balance sheet transactions, arrangements, obligations (including contingent obligations), and other relationships of the Company with unconsolidated entities or other persons that may have a material current or future effect on the Company’s financial condition, changes in financial condition, results of operations, liquidity, capital expenditures, capital resources, or significant components of revenues or expenses. Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, (a) neither the Company nor any of its direct and indirect subsidiaries, including each entity disclosed or described in the Registration Statement, the Disclosure Package and the Prospectus as being a subsidiary of the Company (each, a “**Subsidiary**” and, collectively, the “**Subsidiaries**”), has incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions other than in the ordinary course of business, (b) the Company has not declared or paid any dividends or made any distribution of any kind with respect to its capital stock, (c) there has not been any change in the capital stock of the Company or any of its Subsidiaries, or, other than in the course of business or any grants under any stock compensation plan, and (d) there has not been any Material Adverse Change in the Company’s long-term or short-term debt.

2.8 Authorized Capital; Options, etc. The Company had, at the date or dates indicated in the Registration Statement, the Disclosure Package and the Prospectus, the duly authorized, issued and outstanding capitalization as set forth therein. Based on the assumptions stated in the Registration Statement, the Disclosure Package and the Prospectus, the Company will have on the Closing Date the adjusted stock capitalization set forth therein. Except as set forth in, or contemplated by, the Registration Statement, the Disclosure Package and the Prospectus, on the Effective Date, as of the Applicable Time and on the Closing Date, there was, or will be, no stock options, warrants, or other rights to purchase or otherwise acquire any authorized, but unissued shares of Common Stock of the Company or any security convertible or exercisable into shares of Common Stock of the Company, or any contracts or commitments to issue or sell shares of Common Stock or any such options, warrants, rights or convertible securities.

2.9 Valid Issuance of Securities, etc.

2.9.1. Outstanding Securities. All issued and outstanding securities of the Company issued prior to the transactions contemplated by this Agreement have been duly authorized and validly issued and are fully paid and non-assessable; the holders thereof have no rights of rescission, rights of first refusal, rights of participation or similar rights with respect thereto or put rights, and are not subject to personal liability by reason of being such holders; and none of such securities were issued in violation of the preemptive rights, rights of first refusal or rights of participation or similar rights of any holders of any security of the Company or similar contractual rights granted by the Company. The authorized shares of Common Stock conform in all material respects to all statements relating thereto contained in the Registration Statement, the Disclosure Package and the Prospectus. The offers and sales of the outstanding shares of Common Stock were at all relevant times either registered under the Securities Act and the applicable state securities or “blue sky” laws or, based in part on the representations and warranties of the purchasers of such Shares, exempt from such registration requirements.

2.9.2. Securities Sold Pursuant to this Agreement. The Securities, and Placement Agent's Securities have been duly authorized for issuance and sale and, when issued and paid for pursuant to the terms of this Agreement, will be validly issued, fully paid and non-assessable; the holders thereof are not and will not be subject to personal liability by reason of being such holders; the Securities, and the Placement Agent's Securities are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company; and all corporate action required to be taken for the authorization, issuance and sale of the Securities and the Placement Agent's Securities has been duly and validly taken. The Securities and the Placement Agent's Securities conform in all material respects to all statements with respect thereto contained in the Registration Statement, the Disclosure Package and the Prospectus. All corporate action required to be taken for the authorization, issuance and sale of the Placement Agent's Warrant and the Pre-Funded Warrants has been duly and validly taken; the Warrant Shares and shares of Common Stock underlying the Placement Agent's Warrant Agreement (such shares, the "**Placement Agent Warrant Shares**") have been duly authorized and reserved for issuance by all necessary corporate action on the part of the Company and when paid for and issued in accordance with the Placement Agent's Warrant Agreement and the Pre-Funded Warrant, such Warrant Shares and Placement Agent Warrant Shares will be validly issued, fully paid and non-assessable; the holders thereof are not and will not be subject to personal liability by reason of being such holders; and such Warrant Shares and Placement Agent Warrant Shares are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company.

2.10 Registration Rights of Third Parties. No holders of any securities of the Company or any rights exercisable for or convertible or exchangeable into securities of the Company have the right to require the Company to register any such securities of the Company under the Securities Act or to include any such securities in a registration statement to be filed by the Company.

2.11 Validity and Binding Effect of Agreements. This Agreement, the Placement Agent's Warrant Agreement and the Pre-Funded Warrants have been duly and validly authorized by the Company, and, when executed and delivered, will constitute, the valid and binding agreements of the Company, enforceable against the Company in accordance with their respective terms, except: (i) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally; (ii) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws; and (iii) 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 therefor may be brought.

2.12 No Conflicts, etc. The execution, delivery and performance by the Company of this Agreement, the Placement Agent's Warrant Agreement, the Pre-Funded Warrants and all ancillary documents, the consummation by the Company of the transactions herein and therein contemplated and the compliance by the Company with the terms hereof and thereof do not and will not, with or without the giving of notice or the lapse of time or both: (i) result in a material breach of, or conflict with any of the terms and provisions of, or constitute a material default under, or result in the creation, modification, termination or imposition of any lien, charge, mortgage, pledge, security interest, claim, equity, trust or other encumbrance, preferential arrangement or restriction of any kind whatsoever upon any portion of any property or assets of the Company pursuant to the terms of any indenture, mortgage, deed of trust, note, lease, loan agreement or any other agreement or instrument, license or permit to which the Company is a party or as to which any property of the Company is a party or any of its assets are bound, except as set forth in the Registration Statement, Disclosure Package and Prospectus; (ii) result in any violation of the provisions of the Company's certificate of incorporation, as amended (as the same may be amended or restated from time to time, the "**Charter**") or the amended and restated by-laws of the Company (as the same may be amended or restated from time to time); or (iii) violate any existing applicable law, rule, regulation, judgment, order or decree of any Governmental Entity as of the date hereof (including, without limitation, those promulgated by the Food and Drug Administration of the U.S. Department of Health and Human Services (the "**FDA**") or by any foreign, federal, state or local regulatory authority performing functions similar to those performed by the FDA).

2.13 No Defaults; Violations. No material default exists in the due performance and observance of any term, covenant or condition of any material license, contract, indenture, mortgage, deed of trust, note, loan or credit agreement, or any other agreement or instrument evidencing an obligation for borrowed money, or any other material agreement or instrument to which the Company is a party or by which the Company may be bound or to which any of the properties or assets of the Company is subject; except for such defaults that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change. The Company is not in violation of any term or provision of its Charter or by-laws, or, in violation of any franchise, license, permit, applicable law, rule, regulation, judgment, order or decree of any Governmental Entity.

2.14 Corporate Power; Licenses; Consents.

2.14.1. Conduct of Business. Except as described in the Registration Statement, the Disclosure Package and the Prospectus, the Company has all requisite corporate power and authority, and has all necessary consents, authorizations, approvals, registrations, orders, licenses, certificates, qualifications, registrations and permits of and from all governmental regulatory officials and bodies that it needs as of the date hereof to conduct its business purpose as described in the Registration Statement, the Disclosure Package and the Prospectus, except where such failure to have such consents, authorizations, approvals, registrations, orders, license, certificates, qualifications, registrations and permit would not reasonably be expected to result in a Material Adverse Change.

2.14.2. Transactions Contemplated Herein. The Company has all corporate power and authority to enter into this Agreement, the Placement Agent's Warrant Agreement and the Pre-Funded Warrants and to carry out the provisions and conditions hereof, and all consents, authorizations, approvals, registrations, orders licenses, certificates, qualifications, registrations and permits required in connection therewith have been obtained. No consent, authorization or order of, and no filing with, any court, government agency or other body is required for the valid issuance, sale and delivery of the Securities, the Placement Agent's Securities and the consummation of the transactions and agreements contemplated by this Agreement, the Placement Agent's Warrant Agreement and the Pre-Funded Warrants and as contemplated by the Registration Statement, the Disclosure Package and the Prospectus, except with respect to applicable federal and state securities laws and the rules and regulations of the Exchange and FINRA.

2.15 D&O Questionnaires. To the Company's knowledge, all information contained in the questionnaires (the "**Questionnaires**") completed by each of the Company's directors and officers immediately prior to the Offering (the "**Insiders**") as supplemented by all information concerning the Company's directors, officers and principal stockholders as described in the Registration Statement, the Disclosure Package and the Prospectus, as well as in the Lock-Up Agreement (as defined in Section 2.26 below), provided to the Placement Agent, is true and correct in all material respects and the Company has not become aware of any information which would cause the information disclosed in the Questionnaires to become materially inaccurate and incorrect in any respect.

2.16 Litigation; Governmental Proceedings. There is no action, suit, proceeding, inquiry, arbitration, investigation, litigation or governmental proceeding pending or, to the Company's knowledge, threatened against, or involving the Company, or, to the Company's knowledge, any executive officer or director which has not been disclosed in the Registration Statement, the Disclosure Package and the Prospectus or in connection with the Company's listing application for the listing of the Securities on the Exchange and which is required to be disclosed.

2.17 Good Standing. The Company has been duly incorporated and is validly existing as a corporation and is in good standing under the laws of the State of Delaware as of the date hereof, and is duly qualified to do business and is in good standing in each other jurisdiction in which its ownership or lease of property or the conduct of business requires such qualification, except where the failure to be so qualified or in good standing, singularly or in the aggregate, would not have or reasonably be expected to result in a Material Adverse Change.

2.18 Insurance. The Company carries or is entitled to the benefits of insurance, with reputable insurers, in such amounts and covering such risks which the Company believes are adequate, including, but not limited to, directors and officers insurance coverage at least equal to \$5,000,000 and all such insurance is in full force and effect. The Company has no reason to believe that it will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Change.

2.19 Transactions Affecting Disclosure to FINRA.

2.19.1. Finder's Fees. Except (i) as described in the Registration Statement, the Disclosure Package and the Prospectus and (ii) for amounts that the Company may be required to pay to H.C. Wainwright & Co. LLC ("HCW") to the extent that any Investors are subject to the "tail fee" arrangement with HCW, there are no claims, payments, arrangements, agreements or understandings relating to the payment of a finder's, consulting or origination fee by the Company or any Insider with respect to the sale of the Securities hereunder or any other arrangements, agreements or understandings of the Company or, to the Company's knowledge, any of its stockholders that may affect the Placement Agent's compensation, as determined by FINRA.

2.19.2. Payments Within Twelve (12) Months. Except as described in the Registration Statement, the Disclosure Package and the Prospectus, the Company has not made any direct or indirect payments (in cash, securities or otherwise) to: (i) any person, as a finder's fee, consulting fee or otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who raised or provided capital to the Company; (ii) any FINRA member; or (iii) any person or entity that has any direct or indirect affiliation or association with any FINRA member, within the twelve (12) months prior to the date of this Agreement, other than the payment to the Placement Agent as provided hereunder in connection with the Offering.

2.19.3. Use of Proceeds. None of the net proceeds of the Offering will be paid by the Company to any participating FINRA member or its affiliates, except as specifically authorized herein.

2.19.4. FINRA Affiliation. There is no (i) officer or director of the Company, (ii) beneficial owner of 10% or more of any class of the Company's securities or (iii) beneficial owner of the Company's unregistered equity securities which were acquired during the 180-day period immediately preceding the filing of the Preliminary Prospectus that is an affiliate or associated person of a FINRA member participating in the Offering (as determined in accordance with the rules and regulations of FINRA). The Company (i) does not have any material lending or other relationship with any bank or lending affiliate of any Placement Agent and (ii) does not intend to use any of the proceeds from the sale of the Securities to repay any outstanding debt owed to any affiliate of any Placement Agent.



2.20 Foreign Corrupt Practices Act. None of the Company and any of its Subsidiaries nor, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company and any of its Subsidiaries or any other person acting on behalf of the Company and any of its Subsidiaries, has, directly or indirectly, (i) given or agreed to give any money, gift or similar benefit (other than legal price concessions to customers in the ordinary course of business) to any customer, supplier, employee or agent of a customer or supplier, or official or employee of any governmental agency or instrumentality of any government (domestic or foreign) or any political party or candidate for office (domestic or foreign) or other person who was, is, or may be in a position to help or hinder the business of the Company (or assist it in connection with any actual or proposed transaction) that (a) might subject the Company to any damage or penalty in any civil, criminal or governmental litigation or proceeding, (b) if not given in the past, might have had a Material Adverse Change; (c) if not continued in the future, might adversely affect the assets, business, operations or prospects of the Company; or (d) violated or is in violation of any provision of the Foreign Corrupt Practices Act (the "FCPA") or any applicable non-U.S. anti-bribery statute or regulation; (ii) made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment; or (iii) received notice of any investigation, proceeding or inquiry by any Governmental Entity regarding any of the matters in clauses (i) or (ii) above; and the Company has conducted its business in compliance with the FCPA in all material respects, and has instituted and maintains policies and procedures designed to ensure, and which are reasonably expected to ensure, that the Company will continue to comply in all material respects with the FCPA. The Company has taken reasonable steps to ensure that its accounting controls and procedures are sufficient to cause the Company to comply in all material respects with the FCPA.

2.21 Compliance with OFAC. None of the Company and any of its Subsidiaries or, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company and any of its Subsidiaries or any other person acting on behalf of the Company and any of its Subsidiaries, is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury ("OFAC"), and the Company will not, directly or indirectly, use the proceeds of the Offering hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

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

2.23 Money Laundering Laws. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the "Money Laundering Laws"); and no action, suit or proceeding by or before any Governmental Entity involving the Company with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

2.24 Regulatory. (a) All preclinical studies and clinical trials conducted by or on behalf of the Company that are material to the Company and its Subsidiaries, taken as a whole, are or have been adequately described in the Registration Statement, the Disclosure Package and the Prospectus in all material respects. Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, the preclinical studies and clinical trials conducted by or on behalf of the Company and its Subsidiaries that are described in the Registration Statement, the Disclosure Package and the Prospectus or the results of which are referred to in the Registration Statement, the Disclosure Package and the Prospectus were and, if still ongoing, are being conducted in material compliance with all laws and regulations applicable thereto in the jurisdictions in which they are being conducted and with all laws and regulations applicable to preclinical studies and clinical trials from which data will be submitted to support marketing approval. The descriptions in the Registration Statement, the Disclosure Package and the Prospectus of the results of such studies are accurate and complete in all material respects and fairly present the data derived from such studies, and the Company has no knowledge of, or reason to believe that, any large well-controlled clinical study the aggregate results of which are inconsistent with or otherwise call into question the results of any clinical study conducted by or on behalf of the Company that are described in the Registration Statement, the Disclosure Package and the Prospectus or the results of which are referred to in the Registration Statement, the Disclosure Package and the Prospectus. Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, the Company has not received any written notices or statements from the FDA, the European Medicines Agency (“**EMA**”) or any other governmental agency or authority imposing, requiring, requesting or suggesting a clinical hold, termination, suspension or material modification for or of any preclinical studies and clinical trials that are described in the Registration Statement, the Disclosure Package and the Prospectus or the results of which are referred to in the Registration Statement, the Disclosure Package and the Prospectus. Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, the Company has not received any written notices or statements from the FDA, the EMA or any other governmental agency, and otherwise has no knowledge of, or reason to believe that, (i) any investigational new drug application for any potential product of the Company is or has been rejected or placed on clinical hold; and (ii) any license, approval, permit or authorization to conduct any clinical trial of any potential product of the Company has been, will be or may be suspended, revoked, modified or limited. Neither the Company nor any of its subsidiaries has failed to file with the FDA or any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA, any filing, declaration, listing, registration, report or submission that is required to be so filed. All such filings were in material compliance with applicable laws when filed and no deficiencies have been asserted by any applicable regulatory authority (including, without limitation, the FDA or any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA) with respect to any such filings, declarations, listings, registrations, reports or submissions. Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, to the knowledge of the Company, there are no facts that would be reasonably likely to result in any warning, untitled or notice of violation letter or Form FDA-483 from the FDA. The Company is not aware of any studies, tests or trials the results of which the Company believes reasonably call into question (i) the study, test or trial results of any of its products, (ii) the efficacy or safety of any of its products or (iii) any of the Company’s filings with any Governmental Entity.

(b) Regulatory Filings and Permits. The Company and its Subsidiaries have such permits, licenses, clearances, registrations, exemptions, patents, franchises, certificates of need and other approvals, consents and other authorizations (“**Permits**”) issued by the appropriate domestic or foreign regional, federal, state, or local regulatory agencies or bodies necessary to conduct the business of the Company, including, without limitation, any Investigational New Drug Application, Biologics License Application and/or New Drug Application (an “**NDA**”), as required by FDA, the Drug Enforcement Administration, or any other Permits issued by domestic or foreign regional, federal, state, or local agencies or bodies engaged in the regulation of pharmaceuticals such as those being developed by the Company and its Subsidiaries (collectively, the “**Regulatory Permits**”), except for any of the foregoing that would not reasonably be expected to, individually or in the aggregate, have a Material Adverse Change; the Company is in compliance in all material respects with the requirements of the Regulatory Permits, and all of such Regulatory Permits are valid and in full force and effect; the Company has not received any notice of proceedings relating to the revocation, termination, modification or impairment of rights of any of the Regulatory Permits that, individually or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to result in a Material Adverse Change; the Company has not failed to submit to the FDA any IND, BLA or NDA necessary to conduct the business of the Company, any such filings that were required to be made were in material compliance with applicable laws when filed, and no material deficiencies have been asserted by the FDA with respect to any such filings or submissions that were made.

(c) Compliance with Health Care Laws. Each of the Company and its Subsidiaries is, and at all times has been, in compliance in all material respects with all applicable Health Care Laws, and has not engaged in activities which are, as applicable, cause for false claims liability, civil penalties, or mandatory or permissive exclusion from Medicare, Medicaid, or any other state or federal health care program. For purposes of this Agreement, “**Health Care Laws**” means: (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. §§ 301 et seq.), the Public Health Service Act (42 U.S.C. §§ 201 et seq.), and the regulations promulgated thereunder; (ii) all applicable federal, state, local and all applicable foreign health care related fraud and abuse laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the U.S. Physician Payment Sunshine Act (42 U.S.C. § 1320a-7h), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal False Claims Law (42 U.S.C. § 1320a-7b(a)), all criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286 and 287, and the health care fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) (42 U.S.C. Section 1320d et seq.), the exclusion laws (42 U.S.C. § 1320a-7), the civil monetary penalties law (42 U.S.C. § 1320a-7a), HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.), and the regulations promulgated pursuant to such statutes; (iii) Medicare (Title XVIII of the Social Security Act); (iv) Medicaid (Title XIX of the Social Security Act); (v) the Controlled Substances Act (21 U.S.C. §§ 801 et seq.) and the regulations promulgated thereunder; and (vi) any and all other applicable health care laws and regulations. Neither the Company nor, to the knowledge of the Company, any subsidiary has received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any Health Care Laws, and, to the Company’s knowledge, no such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action is threatened. Neither the Company nor, to the knowledge of the Company, any subsidiary is a party to or has any ongoing reporting obligations pursuant to any corporate integrity agreements, deferred prosecution agreements, monitoring agreements, consent decrees, settlement orders, plans of correction or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company, its Subsidiaries nor any of its respective employees, officers or directors has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion.

2.25 Officers’ Certificate. Any certificate signed by any duly authorized officer of the Company and delivered to you or to Placement Agent Counsel shall be deemed a representation and warranty by the Company to the Placement Agent as to the matters covered thereby.

2.26 Lock-Up Agreements. Schedule 3 hereto contains a complete and accurate list of the Company’s executive officers and directors and each owner of the Company’s outstanding shares of Common Stock (or securities convertible into or exercisable for shares of Common Stock) who will be subject to the Lock-Up Agreement (as defined below) (collectively, the “**Lock-Up Parties**”). The Company has caused each of the Lock-Up Parties to deliver to the Placement Agent an executed Lock-Up Agreement, in the form attached hereto as Exhibit B (the “**Lock-Up Agreement**”), prior to the execution of this Agreement.

2.27 Subsidiaries. All direct and indirect Subsidiaries of the Company are duly organized and in good standing under the laws of the place of organization or incorporation, and each Subsidiary is in good standing in each jurisdiction in which its ownership or lease of property or the conduct of business requires such qualification, except where the failure to qualify would not have a material adverse effect on the assets, business or operations of the Company taken as a whole. The Company’s ownership and control of each Subsidiary is as described in the Registration Statement, the Disclosure Package and the Prospectus.

2.28 Related Party Transactions. There are no business relationships or related party transactions involving the Company or any other person required to be described in the Registration Statement, the Disclosure Package and the Prospectus that have not been described as required.

2.29 No Relationships with Customers and Suppliers. No relationship, direct or indirect, exists between or among the Company on the one hand, and the directors, officers, 5% or greater stockholders, customers or suppliers of the Company or any of the Company's affiliates on the other hand, which is required to be described in the Disclosure Package and the Prospectus or a document incorporated by reference therein and which is not so described.

2.30 No Unconsolidated Entities. Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, there are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Securities Act) and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity that could reasonably be expected to materially affect the Company's liquidity or the availability of or requirements for its capital resources required to be described in the Disclosure Package and the Prospectus or a document incorporated by reference therein which have not been described as required.

2.31 Board of Directors. The Board of Directors of the Company is comprised of the persons disclosed in the Registration Statement, the Disclosure Package and the Prospectus. The qualifications of the persons serving as board members and the overall composition of the board comply with the Exchange Act, the Exchange Act Regulations, the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder (the "**Sarbanes-Oxley Act**") applicable to the Company and the listing rules of the Exchange. At least one member of the Audit Committee of the Board of Directors of the Company qualifies as an "audit committee financial expert," as such term is defined under Regulation S-K and the listing rules of the Exchange. In addition, at least a majority of the persons serving on the Board of Directors qualify as "independent," as defined under the listing rules of the Exchange.

2.32 Sarbanes-Oxley Compliance.

2.32.1. Disclosure Controls. The Company has developed and currently maintains disclosure controls and procedures that will comply with Rule 13a-15 or 15d-15 under the Exchange Act Regulations and such controls and procedures are effective to ensure that all material information concerning the Company will be made known on a timely basis to the individuals responsible for the preparation of the Company's Exchange Act filings and other public disclosure documents.

2.32.2. Compliance. The Company is, or at the Applicable Time and on the Closing Date will be, in material compliance with the provisions of the Sarbanes-Oxley Act applicable to it, and has implemented or will implement such programs and taken reasonable steps to ensure the Company's future compliance (not later than the relevant statutory and regulatory deadlines therefor) with all of the material provisions of the Sarbanes-Oxley Act.

2.32.3. Accounting Controls. The Company and its Subsidiaries maintain systems of “internal control over financial reporting” (as defined under Rules 13a-15 and 15d-15 under the Exchange Act Regulations) that comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including, but not limited to, 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. Except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus, the Company is not aware of any material weaknesses in its internal controls. The Company’s auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are known to the Company’s management and that have adversely affected or are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and (ii) any fraud known to the Company’s management, whether or not material, that involves management or other employees who have a significant role in the Company’s internal controls over financial reporting. Since the date of the latest audited financial statements included in the Disclosure Package, there has been no change in the Company’s internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

2.33 No Investment Company Status. The Company is not and, after giving effect to the Offering and the application of the proceeds thereof as described in the Registration Statement, the Disclosure Package and the Prospectus, will not be, required to register as an “investment company,” as defined in the Investment Company Act of 1940, as amended.

2.34 No Labor Disputes. No labor dispute with the employees of the Company or any of its Subsidiaries exists or, to the knowledge of the Company, is imminent.

2.35 Intellectual Property Rights. The Company and each of its Subsidiaries owns or possesses or has valid rights to use all patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses, inventions, trade secrets and similar rights (“**Intellectual Property Rights**”) necessary for the conduct of the business of the Company and its Subsidiaries as currently carried on and as described in the Registration Statement, the Disclosure Package and the Prospectus. To the knowledge of the Company, no action or use by the Company or any of its Subsidiaries necessary for the conduct of its business as currently carried on and as described in the Registration Statement, the Disclosure Package and the Prospectus will involve or give rise to any infringement of, or license or similar fees for, any Intellectual Property Rights of others. Neither the Company nor any of its Subsidiaries has received any notice alleging any such infringement of, license or similar fees for, or conflict with any asserted Intellectual Property Rights of others. Except as would not reasonably be expected to result, individually or in the aggregate, in a Material Adverse Change (A) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any of the Intellectual Property Rights owned by the Company; (B) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the rights of the Company in or to any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim, that would, individually or in the aggregate, together with any other claims in this Section 2.35, reasonably be expected to result in a Material Adverse Change; (C) the Intellectual Property Rights owned by the Company and, to the knowledge of the Company, the Intellectual Property Rights licensed to the Company have not been adjudged by a court of competent jurisdiction invalid or unenforceable, in whole or in part, and there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim that would, individually or in the aggregate, together with any other claims in this Section 2.35, reasonably be expected to result in a Material Adverse Change; (D) there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others that the Company infringes, misappropriates or otherwise violates any Intellectual Property Rights or other proprietary rights of others, the Company has not received any written notice of such claim and the Company is unaware of any other facts which would form a reasonable basis for any such claim that would, individually or in the aggregate, together with any other claims in this Section 2.35, reasonably be expected to result in a Material Adverse Change; and (E) to the Company’s knowledge, no employee of the Company is in or has ever been in violation in any material respect of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee’s employment with the Company, or actions undertaken by the employee while employed with the Company and could reasonably be expected to result, individually or in the aggregate, in a Material Adverse Change. To the Company’s knowledge, all material technical information developed by and belonging to the Company which has not been patented or disclosed in a patent application has been kept confidential. The Company is not a party to or bound by any options, licenses or agreements with respect to the Intellectual Property Rights of any other person or entity that are required to be set forth in the Registration Statement, the Disclosure Package and the Prospectus and are not described therein. The Registration Statement, the Disclosure Package and the Prospectus contain in all material respects the same description of the matters set forth in the preceding sentence. None of the technology employed by the Company has been obtained or is being used by the Company in violation of any contractual obligation binding on the Company or any of its Subsidiaries or, to the Company’s knowledge, any of its officers, directors or employees, or otherwise in violation of the rights of any persons.

To the Company’s knowledge, all licenses for the use of the Intellectual Property Rights described in the Registration Statement, the Disclosure Package and the Prospectus are in full force and effect in all material respects and are enforceable by the Company and, to the Company’s knowledge, the other parties thereto, in accordance with their 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 therefor may be brought. None of such agreements or instruments has been assigned by the Company, and the Company, has no knowledge, that any other party is in default thereunder and no event has occurred that, with the lapse of time or the giving of notice, or both, would constitute a default thereunder.

2.36 Taxes. Each of the Company and its Subsidiaries has filed all returns (as hereinafter defined) required to be filed with taxing authorities prior to the date hereof or has duly obtained extensions of time for the filing thereof. Each of the Company and its Subsidiaries has paid all taxes (as hereinafter defined) shown as due on such returns that were filed and has paid all taxes imposed on or assessed against the Company or such respective Subsidiary. The provisions for taxes payable, if any, shown on the financial statements filed with or as part of the Registration Statement are sufficient for all accrued and unpaid taxes, whether or not disputed, and for all periods to and including the dates of such consolidated financial statements. Except as disclosed in writing to the Placement Agent, (i) no issues have been raised (and are currently pending) by any taxing authority in connection with any of the returns or taxes asserted as due from the Company or its Subsidiaries, and (ii) no waivers of statutes of limitation with respect to the returns or collection of taxes have been given by or requested from the Company or its Subsidiaries. The term “taxes” means all federal, state, local, foreign and other net income, gross income, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property, windfall profits, customs, duties or other taxes, fees, assessments or charges of any kind whatever, together with any interest and any penalties, additions to tax or additional amounts with respect thereto. The term “returns” means all United States returns, declarations, reports, statements and other documents required to be filed in respect to taxes.

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

2.38 Compliance with Laws. The Company: (A) is and at all times has been in compliance with all statutes, rules, regulations, ordinances, judgments, orders and decrees of all Governmental Entities applicable to the Company’s business (“**Applicable Laws**”), except as could not, individually or in the aggregate, reasonably be expected to result in or have a Material Adverse Change; (B) has not received any warning letter, untitled letter or other correspondence or notice from any other Governmental Entity alleging or asserting noncompliance with any Applicable Laws or any licenses, consents, certificates, approvals, clearances, authorizations, permits, orders and supplements or amendments thereto required by any such Applicable Laws (“**Authorizations**”); (C) possesses all material Authorizations and such Authorizations are valid and in full force and effect and are not in material violation of any term of any such Authorizations; (D) has not received notice of any claim, action, suit, litigation, proceeding, hearing, enforcement, investigation, inquiry, arbitration or other action from any Governmental Entity or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations and has no knowledge that any such Governmental Entity or third party is considering any such claim, litigation, arbitration, action, suit, litigation proceeding, hearing, enforcement, investigation, inquiry, arbitration or other action; (E) has not received notice that any Governmental Entity has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations and has no knowledge that any such Governmental Entity considering such action; (F) has filed, obtained, maintained or submitted all material reports, documents, forms, filings, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct on the date filed (or were corrected or supplemented by a subsequent submission); and (G) has not, either voluntarily or involuntarily, initiated, conducted, or issued or caused to be initiated, conducted or issued, any recall, market withdrawal or replacement, safety alert, post-sale warning, “dear doctor” letter, or other notice or action relating to the alleged lack of safety or efficacy of any product or any alleged product defect or violation and, to the Company’s knowledge, no third party has initiated, conducted or intends to initiate any such notice or action.

2.39 Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the time of effectiveness of the Registration Statement and any amendment thereto, at the earliest time thereafter that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the Securities Act Regulations) of the Securities and at the date hereof, the Company was not and is not an “ineligible issuer,” as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

2.40 Environmental Laws. The Company and its Subsidiaries are in compliance with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to their businesses (“**Environmental Laws**”), except where the failure to comply would not, singularly or in the aggregate, result in a Material Adverse Change. There has been no storage, generation, transportation, handling, treatment, disposal, discharge, emission, or other release of any kind of toxic or other wastes or other hazardous substances by, due to, or caused by the Company or any of its Subsidiaries (or, to the Company’s knowledge, any other entity for whose acts or omissions the Company or any of its Subsidiaries is or may otherwise be liable) upon any of the property now or previously owned or leased by the Company or any of its Subsidiaries, or upon any other property, in violation of any law, statute, ordinance, rule, regulation, order, judgment, decree or permit or which would, under any law, statute, ordinance, rule (including rule of common law), regulation, order, judgment, decree or permit, give rise to any liability; and there has been no disposal, discharge, emission or other release of any kind onto such property or into the environment surrounding such property of any toxic or other wastes or other hazardous substances with respect to which the Company has knowledge.

2.41 Real Property. Except as set forth in the Registration Statement, the Disclosure Package and the Prospectus, the Company and each of its Subsidiaries have good and marketable title in fee simple to, or have valid rights to lease or otherwise use, all items of real or personal property which are material to the business of the Company and its Subsidiaries taken as a whole, in each case free and clear of all liens, encumbrances, security interests, claims and defects that do not, singly or in the aggregate, materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company or any of its Subsidiaries; and all of the leases and subleases material to the business of the Company and its subsidiaries, considered as one enterprise, and under which the Company or any of its Subsidiaries holds properties described in the Registration Statement, the Disclosure Package and the Prospectus, are in full force and effect, and neither the Company nor any Subsidiary has received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company or any Subsidiary under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company or such Subsidiary to the continued possession of the leased or subleased premises under any such lease or sublease.

2.42 Contracts Affecting Capital. There are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Securities Act Regulations) and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity that could reasonably be expected to materially affect the Company’s or any of its Subsidiaries’ liquidity or the availability of or requirements for their capital resources required to be described or incorporated by reference in the Registration Statement, the Disclosure Package and the Prospectus which have not been described or incorporated by reference as required.

2.43 Loans to Directors or Officers. There are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business) or guarantees or indebtedness by the Company or its Subsidiaries to or for the benefit of any of the officers or directors of the Company, its Subsidiaries or any of their respective family members, except as disclosed in the Registration Statement, the Disclosure Package and the Prospectus.

2.44 Smaller Reporting Company. As of the time of filing of the Registration Statement, the Company was, and currently is, a “smaller reporting company,” as defined in Rule 12b-2 of the Exchange Act Regulations.

2.45 Industry Data. The statistical and market-related data included in each of the Registration Statement, the Disclosure Package and the Prospectus are based on or derived from sources that the Company reasonably and in good faith believes are reliable and accurate or represent the Company’s good faith estimates that are made on the basis of data derived from such sources.



2.46 Margin Securities. The Company owns no “margin securities” as that term is defined in Regulation U of the Board of Governors of the Federal Reserve System (the “**Federal Reserve Board**”), and none of the proceeds of Offering will be used, directly or indirectly, for the purpose of purchasing or carrying any margin security, for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry any margin security or for any other purpose which might cause any of the shares of Common Stock to be considered a “purpose credit” within the meanings of Regulation T, U or X of the Federal Reserve Board.

2.47 Exchange Act Reports. The Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(a), 13(e), 14 and 15(d) of the Exchange Act during the preceding 12 months (except to the extent that Section 15(d) requires reports to be filed pursuant to Sections 13(d) and 13(g) of the Exchange Act, which shall be governed by the next clause of this sentence); and the Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(d) and 13(g) of the Exchange Act since January 1, 2022, except where the failure to timely file could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Change.

2.48 Minute Books. The minute books of the Company and each Subsidiary have been made available to the Placement Agent and Placement Agent Counsel, and such books (i) contain a complete summary of all meetings and actions of the board of directors (including each board committee) and stockholders of the Company and each Subsidiary (or analogous governing bodies and interest holders, as applicable), and since January 2022 through the date of the latest meeting and action, and (ii) accurately in all material respects reflect all transactions referred to in such minutes. There are no material transactions, agreements, dispositions or other actions of the Company and each Subsidiary that are not properly approved and/or accurately and fairly recorded in the minute books of the Company or its Subsidiary, as applicable.

2.49 Integration. 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 the Offering to be integrated with prior offerings by the Company for purposes of the Securities Act that would require the registration of any such securities under the Securities Act.

2.50 No Stabilization. Neither the Company nor, to its knowledge, any of its employees, directors or stockholders (without the consent of the Placement Agent) has taken or shall take, directly or indirectly, any action designed to or that has constituted or that might reasonably be expected to cause or result in, under Regulation M of the Exchange Act, or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

2.51 Confidentiality and Non-Competition. To the Company’s knowledge, no director, officer, key employee or consultant of the Company is subject to any confidentiality, non-disclosure, non-competition agreement or non-solicitation agreement with any employer or prior employer that could reasonably be expected to materially affect his ability to be and act in his respective capacity of the Company or be expected to result in a Material Adverse Change.

2.52 Testing-the-Waters Communications. The Company has not (i) alone engaged in any Testing-the-Waters Communications, other than Testing-the-Waters Communications with the written consent of the Placement Agent and with entities that are qualified institutional buyers within the meaning of Rule 144A under the Securities Act or institutions that are accredited investors within the meaning of Rule 501 under the Securities Act and (ii) authorized anyone other than the Placement Agent to engage in Testing-the-Waters Communications. The Company confirms that the Placement Agent has been authorized to act on its behalf in undertaking Testing-the-Waters Communications. The Company has not distributed any Written Testing-the-Waters Communications other than those listed on Schedule 2 hereto. “Written Testing-the-Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Securities Act.

2.53 Electronic Road Show. The Company has made available a Bona Fide Electronic Road Show in compliance with Rule 433(d)(8)(ii) of the Securities Act Regulations such that no filing of any “road show” (as defined in Rule 433(h) of the Securities Act Regulations) is required in connection with the Offering.

3. Covenants of the Company. The Company covenants and agrees as follows:

3.1 Amendments to Registration Statement. The Company shall deliver to the Placement Agent, prior to filing, any amendment or supplement to the Registration Statement, Preliminary Prospectus, Disclosure Package or Prospectus proposed to be filed after the date hereof and not file any such amendment or supplement to which the Placement Agent shall reasonably object in writing.

3.2 Federal Securities Laws.

3.2.1. Compliance. The Company, subject to Section 3.2.2, shall comply with the requirements of Rule 424(b) and Rule 430B of the Securities Act Regulations, and will notify the Placement Agent promptly, and confirm the notice in writing, (i) when any post-effective amendment to the Registration Statement or any amendment or supplement to any Preliminary Prospectus, the Disclosure Package or the Prospectus shall have been filed and when any post-effective amendment to the Registration Statement shall become effective; (ii) of the receipt of any comments from the Commission; (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to any Preliminary Prospectus, the Disclosure Package or the Prospectus or for additional information; (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any Preliminary Prospectus, the Disclosure Package or the Prospectus, or of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the Securities Act concerning the Registration Statement; and (v) if the Company becomes the subject of a proceeding under Section 8A of the Securities Act in connection with the Offering of the Securities. The Company shall effect all filings required under Rule 424(b) of the Securities Act Regulations, in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and shall take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company shall use its reasonable best efforts to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof at the earliest possible moment.

3.2.2. Continued Compliance. The Company shall comply with the Securities Act, the Securities Act Regulations, the Exchange Act and the Exchange Act Regulations so as to permit the completion of the distribution of the Securities as contemplated in this Agreement and in the Registration Statement, the Disclosure Package and the Prospectus. If at any time when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172 of the Securities Act Regulations (“**Rule 172**”), would be) required by the Securities Act to be delivered in connection with sales of the Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Placement Agent or for the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include 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 not misleading; (ii) amend or supplement the Disclosure Package or the Prospectus in order that the Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the Securities Act or the Securities Act Regulations, the Company will promptly (A) give the Placement Agent notice of such event; (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Placement Agent with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement; provided, however, that the Company shall not file or use any such amendment or supplement to which the Placement Agent or counsel for the Placement Agent shall reasonably object. The Company will furnish to the Placement Agent such number of copies of such amendment or supplement as the Placement Agent may reasonably request. The Company has given the Placement Agent notice of any filings made pursuant to the Exchange Act or the Exchange Act Regulations within 48 hours prior to the Applicable Time. The Company shall give the Placement Agent notice of its intention to make any such filing from the Applicable Time until the Closing Date and will furnish the Placement Agent with copies of the related document(s) a reasonable amount of time prior to such proposed filing, as the case may be, and will not file or use any such document to which the Placement Agent or counsel for the Placement Agent shall reasonably object.

3.2.3. Exchange Act Registration. For a period of three (3) years after the date of this Agreement, the Company shall use its best efforts to maintain the registration of the shares of Common Stock under the Exchange Act. The Company shall not deregister the shares of Common Stock under the Exchange Act without the prior written consent of the Placement Agent.

3.2.4. Free Writing Prospectuses. The Company agrees that, unless it obtains the prior written consent of the Placement Agent, it shall not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus,” or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; *provided, however*, that the Placement Agent shall be deemed to have consented to each Issuer General Use Free Writing Prospectus hereto and any “road show that is a written communication” within the meaning of Rule 433(d)(8)(i) that has been reviewed by the Placement Agent and to which no objection was made by the Placement Agent. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Placement Agent as an “issuer free writing prospectus,” as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Placement Agent and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

3.2.5. Testing-the-Waters Communications. If at any time following the distribution of any Written Testing-the-Waters Communication there occurred or occurs an event or development as a result of which such Written Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company shall promptly notify the Placement Agent and shall promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

3.3 Delivery to the Placement Agent of Registration Statements. The Company has delivered or made available or shall deliver or make available to the Placement Agent and counsel for the Placement Agent, without charge, signed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith or incorporated by reference therein and documents incorporated or deemed to be incorporated by reference therein) and signed copies of all consents and certificates of experts, and will also deliver to the Placement Agent, without charge, a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) for each of the Placement Agent. The copies of the Registration Statement and each amendment thereto furnished to the Placement Agent will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.4 Delivery to the Placement Agent of Prospectuses. The Company has delivered or made available or will deliver or make available to the Placement Agent, without charge, as many copies of each Preliminary Prospectus as the Placement Agent reasonably requested, and the Company hereby consents to the use of such copies for purposes permitted by the Securities Act. The Company will furnish to the Placement Agent, without charge, during the period when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the Securities Act, such number of copies of the Prospectus (as amended or supplemented) as the Placement Agent may reasonably request. The Prospectus and any amendments or supplements thereto furnished to the Placement Agent will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

3.5 Effectiveness and Events Requiring Notice to the Placement Agent. The Company shall use its best efforts to cause the Registration Statement to remain effective with a current prospectus until the later of (a) at least nine (9) months after the Applicable Time and (b) through and including the expiration date of the Pre-Funded Warrants (or the date that all of the Pre-Funded Warrants have been exercised, if earlier), and shall notify the Placement Agent immediately and confirm the notice in writing: (i) of the effectiveness of the Registration Statement and any amendment thereto; (ii) of the issuance by the Commission of any stop order or of the initiation, or the threatening, of any proceeding for that purpose; (iii) of the issuance by any state securities commission of any proceedings for the suspension of the qualification of the Securities for offering or sale in any jurisdiction or of the initiation, or the threatening, of any proceeding for that purpose; (iv) of the mailing and delivery to the Commission for filing of any amendment or supplement to the Registration Statement or Prospectus; (v) of the receipt of any comments or request for any additional information from the Commission; and (vi) of the happening of any event during the period described in this Section 3.5 that, in the judgment of the Company, makes any statement of a material fact made in the Registration Statement, the Disclosure Package or the Prospectus untrue or that requires the making of any changes in (x) the Registration Statement in order to make the statements therein not misleading, or (y) in the Disclosure Package or the Prospectus in order to make the statements therein, in light of the circumstances under which they were made, not misleading. If the Commission or any state securities commission shall enter a stop order or suspend such qualification at any time, the Company shall make every reasonable effort to obtain promptly the lifting of such order.

3.6 Review of Financial Statements. For a period of five (5) years after the date of this Agreement, the Company, at its expense, shall cause its regularly engaged independent registered public accounting firm to review (but not audit) the Company's financial statements for each of the three fiscal quarters immediately preceding the announcement of any quarterly financial information.

3.7 Listing. The Company shall use its commercially reasonable efforts to maintain the listing of the shares of Common Stock (including the Shares and the Warrant Shares) on the Exchange for at least three (3) years from the date of this Agreement.

3.8 Financial Public Relations Firm. The Company has retained a financial public relations firm reasonably acceptable to the Placement Agent and the Company, which firm shall be experienced in assisting issuers in public offerings of securities and in their relations with their security holders, and shall retain such firm or another firm reasonably acceptable to the Placement Agent for a period of not less than two (2) years after the date hereof.

3.9 Reports to the Placement Agent.

3.9.1. Periodic Reports, etc. For a period of three (3) years after the date of this Agreement, the Company shall furnish or make available to the Placement Agent copies of such financial statements and other periodic and special reports as the Company from time to time furnishes generally to holders of any class of its securities and also promptly furnish to the Placement Agent: (i) a copy of each periodic report the Company shall be required to file with the Commission under the Exchange Act and the Exchange Act Regulations; (ii) a copy of every press release and every news item and article with respect to the Company or its affairs which was released by the Company; (iii) a copy of each Form 8-K prepared and filed by the Company; (iv) five copies of each registration statement filed by the Company under the Securities Act; (v) a copy of each report or other communication furnished to stockholders; and (vi) such additional documents and information with respect to the Company and the affairs of any future subsidiaries of the Company as the Placement Agent may from time to time reasonably request; *provided, however*, the Placement Agent shall sign, if requested by the Company, a Regulation FD compliant confidentiality agreement which is reasonably acceptable to the Placement Agent and Placement Agent Counsel in connection with the Placement Agent's receipt of such information. Documents filed with the Commission pursuant to its EDGAR system shall be deemed to have been delivered to the Placement Agent pursuant to this Section 3.9.1.

3.9.2. Transfer Agent; Transfer Sheets. For a period of three (3) years after the date of this Agreement, the Company shall retain a transfer agent and registrar acceptable to the Placement Agent and shall furnish to the Placement Agent at the Company's sole cost and expense such transfer sheets of the Company's securities as the Placement Agent may reasonably request, including the daily and monthly consolidated transfer sheets of the Transfer Agent and DTC. VStock Transfer, LLC is acceptable to the Placement Agent to act as Transfer Agent for the shares of Common Stock.

3.9.3. Trading Reports. During such time as the Securities are listed on the Exchange, the Company shall provide to the Placement Agent, at the Company's expense, such reports published by Exchange relating to price trading of the Securities, as the Placement Agent shall reasonably request.

3.10 Payment of Expenses. The Company hereby agrees to pay the Closing Date, to the extent not paid at the Closing Date, on an accountable basis, all expenses incident to the performance of the obligations of the Company under this Agreement, including, but not limited to: (a) all filing fees and communication expenses relating to the registration of the offer and sale of the Securities to be sold in the Offering with the Commission; (b) all filing fees and expenses associated with the review of the Offering by FINRA; (c) all fees and expenses relating to the listing of such Shares on The Nasdaq Capital Market, The Nasdaq Global Market, The Nasdaq Global Select Market, the NYSE or the NYSE American and on such other stock exchanges as the Company and the Placement Agent together determine, including any fees charged by The Depository Trust Company (DTC) for new securities; (d) all fees, expenses and disbursements relating to background checks of the Company's officers, directors and entities in an amount not to exceed \$15,000 in the aggregate; (e) all fees, expenses and disbursements relating to the registration or qualification of such Shares under the "blue sky" securities laws of such states, if applicable, and other jurisdictions as the Placement Agent may reasonably designate; (f) all fees, expenses and disbursements relating to the registration, qualification or exemption of such Shares under the securities laws of such foreign jurisdictions as the Placement Agent may reasonably designate; (g) the costs of all mailing and printing of the offering documents (including, without limitation, this Agreement, any Blue Sky Surveys and, if appropriate, any Agreement Among Placement Agent, Selected Dealers' Agreement, Placement Agent' Questionnaire and Power of Attorney), Registration Statements, Prospectuses and all amendments, supplements and exhibits thereto and as many preliminary and final Prospectuses as the Placement Agent may reasonably deem necessary; (h) the costs and expenses of the public relations firm; (i) the costs of preparing, printing and delivering certificates representing the Securities; (j) fees and expenses of the transfer agent for the Common Stock; (k) stock transfer and/or stamp taxes, if any, payable upon the transfer of securities from the Company to the Placement Agent; (l) the costs associated with post-Closing advertising the Offering in the national editions of the Wall Street Journal and New York Times not to exceed \$25,000 in the aggregate; (m) the costs associated with bound volumes of the public offering materials as well as commemorative mementos and lucite tombstones, each of which the Company or its designee will provide within a reasonable time after the Closing in such quantities as the Placement Agent may reasonably request, in an amount not to exceed \$2,500; (n) the fees and expenses of the Company's accountants; (o) the fees and expenses of the Company's legal counsel and other agents and representatives; (p) the fees and expenses of the Placement Agent's legal counsel not to exceed \$125,000; (q) the \$29,500 cost associated with the use of Ipreo's book building, prospectus tracking and compliance software for the Offering; (r) \$10,000 for data services and communications expenses; (s) up to \$10,000 of the Placement Agent's actual accountable "road show" expenses; and (t) up to \$30,000 of the Placement Agent's market making and trading, and clearing firm settlement expenses for the Offering. The Placement Agent may deduct from the net proceeds of the Offering payable to the Company on the Closing Date, the expenses set forth herein (less any amounts previously advanced against such actual reimbursable expense) to be paid by the Company to the Placement Agent; *provided, however*, that in the event that the Offering is terminated, the Company agrees to reimburse the Placement Agent pursuant to Section 8.3.

3.11 Application of Net Proceeds. The Company shall apply the net proceeds from the Offering received by it in a manner consistent with the application thereof described under the caption "Use of Proceeds" in the Registration Statement, the Disclosure Package and the Prospectus.

3.12 Delivery of Earnings Statements to Security Holders. The Company shall make generally available to its security holders as soon as practicable, but not later than the first day of the fifteenth (15<sup>th</sup>) full calendar month following the date of this Agreement, an earnings statement (which need not be certified by independent registered public accounting firm unless required by the Securities Act or the Securities Act Regulations, but which shall satisfy the provisions of Rule 158(a) under Section 11(a) of the Securities Act) covering a period of at least twelve (12) consecutive months beginning after the date of this Agreement.

3.13 Stabilization. Neither the Company nor, to its knowledge, any of its employees, directors or stockholders (without the consent of the Placement Agent) has taken or shall take directly or indirectly, any action designed to or that has constituted or that might reasonably be expected to cause or result in, under Regulation M of the Exchange Act, or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

3.14 Internal Controls. The Company shall maintain a system of internal accounting controls sufficient to provide reasonable assurances that: (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary in order to permit preparation of financial statements in accordance with GAAP and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

3.15 Accountants. As of the date of this Agreement, the Company shall continue to retain a nationally recognized independent registered public accounting firm for a period of at least three (3) years after the date of this Agreement. The Placement Agent acknowledges that the Auditor is acceptable to the Placement Agent.

3.16 FINRA. The Company shall advise the Placement Agent (who shall make an appropriate filing with FINRA) if it is or becomes aware that (i) any officer or director of the Company, (ii) any beneficial owner of 10% or more of any class of the Company's securities or (iii) any beneficial owner of the Company's unregistered equity securities which were acquired during the 180 days immediately preceding the filing of the Registration Statement is or becomes an affiliate or associated person of a FINRA member participating in the Offering (as determined in accordance with the rules and regulations of FINRA).

3.17 No Fiduciary Duties. The Company acknowledges and agrees that the Placement Agent's responsibility to the Company is solely contractual in nature and that none of the Placement Agent or their affiliates or any selling agent shall be deemed to be acting in a fiduciary capacity, or otherwise owes any fiduciary duty to the Company or any of its affiliates in connection with the Offering and the other transactions contemplated by this Agreement.

3.18 Restriction on Continuous Offerings and Variable Rate Transactions. The Company agrees that for a period of twelve (12) months after the Closing Date, it will not directly or indirectly enter into any continuous equity or Variable Rate Transaction without the prior written consent of the Placement Agent. For purposes of this Agreement, "**Variable Rate Transactions**" means transactions involving an offer to sell, sale, contract to sell, grant of any option to sell or other disposition of shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company at a price that is based upon and/or varies with the trading prices of or quotations for the Company's capital stock at any time after the initial issuance of such debt or equity securities, including, without limitation, any equity-line-of-credit transactions or "at-the-market" transactions or programs.

3.19 Company Lock-Up Agreements. The Company, on behalf of itself and any successor entity, agrees that, without the prior written consent of the Placement Agent, it will not for a period of sixty (60) days after the date of this Agreement (the "**Lock-Up Period**"), (a) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company; (b) file or caused to be filed any registration statement with the Commission relating to the offering of any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company; (c) complete any offering of debt securities of the Company, other than entering into a line of credit with a traditional bank or (d) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of capital stock of the Company, whether any such transaction described in clause (a), (b), (c) or (d) above is to be settled by delivery of shares of capital stock of the Company or such other securities, in cash or otherwise; *provided, however*, that the restrictions contained in this Section 3.19 shall not apply to (i) the shares of Common Stock to be sold hereunder and the shares of Common Stock issuable upon exercise of the Pre-funded Warrants and the Placement Agent's Warrant Agreement; (ii) the issuance by the Company of shares of Common Stock upon the exercise of a stock option or warrant or the conversion of a security outstanding on the date hereof, which is disclosed in the Registration Statement, the Disclosure Package and the Prospectus, provided that such option, warrants and 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; (iii) the issuance by the Company of stock options or shares of capital stock of the Company under any equity compensation plan of the Company; (iv) the filing of any registration statement on Form S-8 or a successor form thereto relating to the shares of Common Stock granted pursuant to or reserved for issuance under the equity compensation plans of the Company and any Subsidiary referred to in clause (ii); or (v) the issuance of a number of shares of Common Stock equal to up to 10% of the Company's outstanding shares of Common Stock in connection with a licensing or collaboration agreement with one or more third parties, provided that such securities are issued as "restricted securities" (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the Lock-Up Period.

3.20 Release of D&O Lock-up Period. If the Placement Agent, in its sole discretion, agrees to release or waive the restrictions set forth in the Lock-Up Agreements described in Section 2.26 hereof for an officer or director of the Company and provide the Company with notice of the impending release or waiver at least three (3) Business Days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit C hereto through a major news service at least two (2) Business Days before the effective date of the release or waiver.

3.21 Blue Sky Qualifications. The Company shall use its reasonable best efforts, in cooperation with the Placement Agent, if necessary, to qualify the Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Placement Agent may designate and to maintain such qualifications in effect so long as required to complete the distribution of the Securities; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

3.22 Reporting Requirements. The Company, during the period when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the Securities Act, will file all documents required to be filed with the Commission pursuant to the Exchange Act within the time periods required by the Exchange Act and Exchange Act Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Securities as may be required under Rule 463 under the Securities Act Regulations.

3.23 Press Release. Prior to the Closing Date and for a period of ten (10) days after the Closing Date, the Company shall not issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Placement Agent is notified), without the prior written consent of the Placement Agent, which consent shall not be unreasonably withheld, unless in the judgment of the Company and its counsel, and after notification to the Placement Agent, such press release or communication is required by law.

3.24 Sarbanes Oxley. The Company shall at all times comply with all applicable provisions of the Sarbanes Oxley Act in effect from time to time.

3.25 Reservation of Common Stock. As of the date hereof, the Company has irrevocably reserved, and the Company shall continue to reserve and keep available at all times, free of pre-emptive rights, a sufficient number of shares of Common Stock for the purpose of enabling the Company to issue the Warrant Shares and the Placement Agent Warrant Shares.

3.26 Board Composition and Board Designations. The Company shall ensure that: (i) the qualifications of the persons serving as members of the Board of Directors and the overall composition of the Board comply with the Sarbanes-Oxley Act, with the Exchange Act and with the listing rules of the Exchange or any other national securities exchange, as the case may be, in the event the Company seeks to have its Securities listed on another exchange or quoted on an automated quotation system, and (ii) if applicable, at least one member of the Audit Committee of the Board of Directors qualifies as an "audit committee financial expert," as such term is defined under Regulation S-K and the listing rules of the Exchange.

3.27 Prohibition on Press Releases and Public Announcements. The Company shall not issue press releases or engage in any other publicity, without the Placement Agent's prior written consent, for a period ending at 5:00 p.m., Eastern time, on the first (1<sup>st</sup>) Business Day following the forty-fifth (45<sup>th</sup>) day after the Closing Date, other than normal and customary releases issued in the ordinary course of the Company's business.



4. Conditions to Closing. The obligations of the Investors to purchase and pay for the Securities, shall be subject to (i) the continuing accuracy of the representations and warranties of the Company as of the date hereof and as of the Closing Date; (ii) the accuracy of the statements of officers of the Company made pursuant to the provisions hereof; (iii) the performance by the Company of its obligations hereunder; and (iv) the following conditions:

4.1 Regulatory Matters.

4.1.1. Commission Actions; Required Filings. At the Closing Date, no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the Securities Act, no order preventing or suspending the use of any Preliminary Prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated by the Commission. The Company has complied with each request (if any) from the Commission for additional information. A Prospectus containing the Rule 430B Information shall have been filed with the Commission in the manner and within the time frame required by Rule 424(b) under the Securities Act Regulations (without reliance on Rule 424(b)(8)) or a post-effective amendment providing such information shall have been filed with, and declared effective by, the Commission in accordance with the requirements of Rule 430B under the Securities Act regulations.

4.1.2. Exchange Clearance. On the Closing Date, the Company shall have submitted to Nasdaq a Listing of Additional Shares Notification with respect to the listing on the Exchange of the Shares and Warrant Shares, to which the Exchange shall not have objected or rejected.

4.2 Company Counsel Matters. On the Closing Date, the Placement Agent shall have received the opinion of Goodwin Procter LLP, counsel to the Company, and a written statement providing certain "10b-5" negative assurances, dated the Closing Date and addressed to the Placement Agent, in a form reasonably acceptable to the Placement Agent.

4.2.1. Reliance. In rendering such opinions, such counsel may rely: (i) as to matters involving the application of laws other than the laws of the United States and jurisdictions in which they are admitted, to the extent such counsel deems proper and to the extent specified in such opinion, if at all, upon an opinion or opinions (in form and substance reasonably satisfactory to the Placement Agent) of other counsel reasonably acceptable to the Placement Agent, familiar with the applicable laws; and (ii) as to matters of fact, to the extent they deem proper, on certificates or other written statements of officers of the Company and officers of departments of various jurisdictions having custody of documents respecting the corporate existence or good standing of the Company, provided that copies of any such statements or certificates shall be delivered to Placement Agent Counsel if requested.

4.3 Comfort Letters.

4.3.1. Cold Comfort Letter. At the time this Agreement is executed, the Placement Agent shall have received a cold comfort letter containing statements and information of the type customarily included in accountants' comfort letters with respect to the financial statements and certain financial information contained or incorporated by reference or deemed incorporated by reference in the Registration Statement, the Disclosure Package and the Prospectus, addressed to the Placement Agent and in form and substance satisfactory in all respects to the Placement Agent and to the Auditor, dated as of the date of this Agreement.

4.3.2. Bring-down Comfort Letter. At the Closing Date, the Placement Agent shall have received from the Auditor a letter, dated as of the Closing Date, to the effect that the Auditor reaffirms the statements made in their letter furnished pursuant to Section 4.3.1, except that the specified date referred to shall be a date not more than three (3) business days prior to the Closing Date.

#### 4.4 Officers' Certificates.

4.4.1. Officers' Certificate. The Company shall have furnished to the Placement Agent a certificate, dated the Closing Date, of its Chief Executive Officer and its Chief Financial Officer stating that (i) such officers have carefully examined the Registration Statement, the Disclosure Package, any Issuer Free Writing Prospectus and the Prospectus and, in their opinion, the Registration Statement and each amendment thereto, as of the Applicable Time and as of the Closing Date did not include any untrue statement of a material fact and did not omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Disclosure Package, as of the Applicable Time and as of the Closing Date, any Issuer Free Writing Prospectus as of its date and as of the Closing Date and the Prospectus and each amendment or supplement thereto, as of the respective dates thereof and as of the Closing Date, did not include any untrue statement of a material fact and did not omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances in which they were made, not misleading, (ii) since the effective date of the Registration Statement, no event has occurred which should have been set forth in a supplement or amendment to the Registration Statement, the Disclosure Package or the Prospectus, (iii) to the best of their knowledge after reasonable investigation, as of the Closing Date, the representations and warranties of the Company in this Agreement are true and correct in all material respects (except for those representations and warranties qualified as to materiality, which shall be true and correct in all respects and except for those representations and warranties which refer to facts existing at a specific date, which shall be true and correct as of such date) and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date, and (iv) there has not been, subsequent to the date of the most recent audited financial statements included or incorporated by reference in the Disclosure Package, any material adverse change in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would involve a material adverse change or a prospective material adverse change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company, except as set forth in the Prospectus.

4.4.2. Secretary's Certificate. At each of the Closing Date, the Placement Agent shall have received a certificate of the Company signed by the Secretary of the Company, dated the Closing Date, certifying: (i) that each of the Charter and Bylaws is true and complete, has not been modified and is in full force and effect; (ii) that the resolutions of the Company's Board of Directors relating to the Offering are in full force and effect and have not been modified; (iii) as to the accuracy and completeness of all correspondence between the Company or its counsel and the Commission; and (iv) as to the incumbency of the officers of the Company. The documents referred to in such certificate shall be attached to such certificate.

4.5 No Material Changes. Prior to and on the Closing Date: (i) there shall have been no Material Adverse Change or development involving a prospective Material Adverse Change from the latest dates as of which such condition is set forth in the Registration Statement and no change in the capital stock or debt of the Company, the Disclosure Package and the Prospectus; (ii) no action, suit or proceeding, at law or in equity, shall have been pending or threatened against the Company or any Insider before or by any court or federal or state commission, board or other administrative agency wherein an unfavorable decision, ruling or finding may materially adversely affect the business, operations, properties, assets, prospects or financial condition or income of the Company, except as set forth in the Registration Statement, the Disclosure Package and the Prospectus; (iii) no stop order shall have been issued under the Securities Act and no proceedings therefor shall have been initiated or threatened by the Commission; (iv) no action shall have been taken and no law, statute, rule, regulation or order shall have been enacted, adopted or issued by any Governmental Entity that would prevent the issuance or sale of the Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company; (v) no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued that would prevent the issuance or sale of the Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company; and (vi) the Registration Statement, the Disclosure Package and the Prospectus and any amendments or supplements thereto shall contain all statements that are required to be stated therein in accordance with the Securities Act and the Securities Act Regulations and shall conform in all material respects to the requirements of the Securities Act and the Securities Act Regulations, and neither the Registration Statement, the Disclosure Package nor the Prospectus nor any amendment or supplement thereto shall 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.

4.6 Corporate Proceedings. All corporate proceedings and other legal matters incident to the authorization, form and validity of each of this Agreement, the Securities, the Registration Statement, the Disclosure Package and the Prospectus and all other legal matters relating to this Agreement and the transactions contemplated hereby and thereby shall be reasonably satisfactory in all material respects to counsel for the Placement Agent, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

4.7 Delivery of Agreements.

4.7.1. Lock-Up Agreements. On or before the date of this Agreement, the Company shall have delivered to the Placement Agent executed copies of the Lock-Up Agreements from each of the persons listed in Schedule 3 hereto.

4.7.2. Pre-Funded Warrants. On the Closing Date, the Company shall have delivered to the Placement Agent executed copies of the Pre-Funded Warrants.

4.7.3. Placement Agent's Warrant Agreement. On the Closing Date, the Company shall have delivered to the Placement Agent executed copies of the Placement Agent's Warrant Agreement.

4.8 Additional Documents. At the Closing Date, Placement Agent Counsel shall have been furnished with such documents and opinions as they may require for the purpose of enabling Placement Agent Counsel to deliver an opinion to the Placement Agent, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the conditions, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Securities and the as herein contemplated shall be satisfactory in form and substance to the Placement Agent and Placement Agent Counsel.

5. Indemnification.

5.1 General. Subject to the conditions set forth below, the Company agrees to indemnify and hold harmless the Placement Agent, its affiliates and each of its and their respective directors, officers, members, employees, representatives, partners, stockholders, affiliates, counsel, and agents and each person, if any, who controls any such Placement Agent within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the “**Placement Agent Indemnified Parties**,” and each a “**Placement Agent Indemnified Party**”), against any and all loss, liability, claim, damage and expense whatsoever (including but not limited to any and all legal or other expenses reasonably incurred in investigating, preparing or defending against any litigation, commenced or threatened, or any claim whatsoever, whether arising out of any action between any of the Placement Agent Indemnified Parties and the Company or between any of the Placement Agent Indemnified Parties and any third party, or otherwise) to which they or any of them may become subject under the Securities Act, the Exchange Act or any other statute or at common law or otherwise or under the laws of foreign countries (a “**Claim**”), (i) arising out of or based upon any untrue statement or alleged untrue statement of a material fact contained in (A) the Registration Statement, the Disclosure Package, any Preliminary Prospectus, the Prospectus, or in any Issuer Free Writing Prospectus or in any Written Testing-the-Waters Communication (as from time to time each may be amended and supplemented); (B) any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the Offering, including any “road show” or investor presentations made to investors by the Company (whether in person or electronically); or (C) any application or other document or written communication (in this Section 5, collectively called “application”) executed by the Company or based upon written information furnished by the Company in any jurisdiction in order to qualify the Securities and Placement Agent’s Securities under the securities laws thereof or filed with the Commission, any state securities commission or agency, the Exchange or any other national securities exchange; or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, unless such statement or omission was made in reliance upon, and in conformity with, the Placement Agents’ Information or (ii) otherwise arising in connection with or allegedly in connection with the Offering. The Company also agrees that it will reimburse each Placement Agent Indemnified Party for all fees and expenses (including but not limited to any and all legal or other expenses reasonably incurred in investigating, preparing or defending against any litigation, commenced or threatened, or any claim whatsoever, whether arising out of any action between any of the Placement Agent Indemnified Parties and the Company or between any of the Placement Agent Indemnified Parties and any third party, or otherwise) (collectively, the “**Expenses**”), and further agrees wherever and whenever possible to advance payment of Expenses as they are incurred by an Placement Agent Indemnified Party in investigating, preparing, pursuing or defending any Claim.

5.1.1. Procedure. If any action is brought against a Placement Agent Indemnified Party in respect of which indemnity may be sought against the Company pursuant to Section 5.1.1, such Placement Agent Indemnified Party shall promptly notify the Company in writing of the institution of such action and the Company shall assume the defense of such action, including the employment and fees of counsel (subject to the approval of such Placement Agent Indemnified Party) and payment of actual expenses if an Placement Agent Indemnified Party requests that the Company do so. Such Placement Agent Indemnified Party shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of the Company, and shall be advanced by the Company; provider however, that the Company shall not be obligated to bear the reasonable fees and expenses of more than one firm of attorneys selected by the Placement Agent Indemnified Party (in addition to any local counsel). The Company shall not be liable for any settlement of any action effected without its consent (which shall not be unreasonably withheld). In addition, the Company shall not, without the prior written consent of the Placement Agents, settle, compromise or consent to the entry of any judgment in or otherwise seek to terminate any pending or threatened action in respect of which advancement, reimbursement, indemnification or contribution may be sought hereunder (whether or not such Placement Agent Indemnified Party is a party thereto) unless such settlement, compromise, consent or termination (i) includes an unconditional release of each Placement Agent Indemnified Party, acceptable to such Placement Agent Indemnified Party, from all liabilities, expenses and claims arising out of such action for which indemnification or contribution may be sought and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any Placement Agent Indemnified Party.

5.2 [Reserved].

5.3 Contribution.

5.3.1. Contribution Rights. If the indemnification provided for in this Section 5 shall for any reason be unavailable to or insufficient to hold harmless an indemnified party under Section 5.1 or 5.2 in respect of any loss, claim, damage or liability, or any action in respect thereof, referred to therein, then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability, or action in respect thereof, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company, on the one hand, and the Placement Agents, on the other, from the Offering of the Securities, or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Placement Agents, on the other, with respect to the statements or omissions that resulted in such loss, claim, damage or liability, or action in respect thereof, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Placement Agent, on the other, with respect to such Offering shall be deemed to be in the same proportion as the total net proceeds from the Offering of the Securities purchased under this Agreement (before deducting expenses) received by the Company, as set forth in the table on the cover page of the Prospectus, on the one hand, and the total underwriting discounts and commissions received by the Placement Agents with respect to the shares of the Common Stock purchased under this Agreement, as set forth in the table on the cover page of the Prospectus, on the other hand. The relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Placement Agents, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Placement Agents agree that it would not be just and equitable if contributions pursuant to this Section 5.3.1 were to be determined by pro rata allocation (even if the Placement Agents were treated as one entity for such purpose) or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section 5.3.1 shall be deemed to include, for purposes of this Section 5.3.1, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 5.3.1 in no event shall an Placement Agent be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Placement Agent with respect to the Offering of the Securities exceeds the amount of any damages that such Placement Agent has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

5.3.2. Contribution Procedure. Within fifteen (15) days after receipt by any party to this Agreement (or its Placement Agent) of notice of the commencement of any action, suit or proceeding, such party will, if a claim for contribution in respect thereof is to be made against another party (“contributing party”), notify the contributing party of the commencement thereof, but the failure to so notify the contributing party will not relieve it from any liability which it may have to any other party other than for contribution hereunder. In case any such action, suit or proceeding is brought against any party, and such party notifies a contributing party or its Placement Agent of the commencement thereof within the aforesaid 15 days, the contributing party will be entitled to participate therein with the notifying party and any other contributing party similarly notified. Any such contributing party shall not be liable to any party seeking contribution on account of any settlement of any claim, action or proceeding affected by such party seeking contribution on account of any settlement of any claim, action or proceeding affected by such party seeking contribution without the written consent of such contributing party. The contribution provisions contained in this Section 5.3.2 are intended to supersede, to the extent permitted by law, any right to contribution under the Securities Act, the Exchange Act or otherwise available.

6. Right of First Refusal. Provided that the Securities are sold in accordance with the terms of this Agreement, the Placement Agent shall have an irrevocable right of first refusal (the “**Right of First Refusal**”), from the Closing Date until May 17, 2025 (the “**ROFR Period**”), to act as sole and exclusive investment banker, sole and exclusive book-runner, sole and exclusive financial advisor, sole and exclusive underwriter and/or sole and exclusive placement agent, at the Placement Agent’s sole and exclusive discretion, for each and every future public and private equity and debt offering, including all equity linked financings (each, a “**Subject Transaction**”), during the ROFR Period, of the Company, or any successor to or subsidiary of the Company, on terms and conditions customary to the Placement Agent for such Subject Transactions, provided that, for clarity, this Right of First Refusal shall not apply to (1) Company transactions with strategic partners or other sources of non-dilutive funding, including government agencies and private foundations, or (2) transactions for which no broker-dealer is proposed to be engaged by the Company. For the avoidance of any doubt, the Company shall not retain, engage or solicit any additional investment banker, book-runner, financial advisor, underwriter and/or placement agent in a Subject Transaction without the express written consent of the Placement Agent. The Company shall notify the Placement Agent of its intention to pursue a Subject Transaction, including the material terms thereof, by providing written notice thereof by registered mail or overnight courier service addressed to the Placement Agent. If the Placement Agent fails to exercise its Right of First Refusal with respect to any Subject Transaction within ten (10) Business Days after the mailing of such written notice, then the Placement Agent shall have no further claim or right with respect to the Subject Transaction. The Placement Agent may elect, in its sole and absolute discretion, not to exercise its Right of First Refusal with respect to any Subject Transaction; provided that any such election by the Placement Agent shall not adversely affect the Placement Agent’s Right of First Refusal with respect to any other Subject Transaction during the ROFR Period agreed to above.

7. Effective Date of this Agreement and Termination Thereof.

7.1 Effective Date. This Agreement shall become effective when both the Company and the Placement Agent have executed the same and delivered counterparts of such signatures to the other party.

7.2 Termination. The term of the Placement Agent’s exclusive engagement will be as set forth in the Engagement Agreement (as defined below). Notwithstanding anything to the contrary contained herein, the provisions concerning confidentiality, indemnification and contribution contained herein and the Company’s obligations contained in the indemnification provisions will survive any expiration or termination of this Agreement, and the Company’s obligation to pay fees actually earned and payable and to reimburse expenses actually incurred and reimbursable pursuant to Section 3.10 hereof and which are permitted to be reimbursed under FINRA Rule 5110(g)(4)(A), will survive any expiration or termination of this Agreement. Nothing in this Agreement shall be construed to limit the ability of the Placement Agent or its affiliates to pursue, investigate, analyze, invest in, or engage in investment banking, financial advisory or any other business relationship with Persons (as defined below) other than the Company. As used herein (i) “Persons” 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 and (ii) “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.

7.3 Expenses. Notwithstanding anything to the contrary in this Agreement, in the event that this Agreement shall not be carried out for any reason whatsoever, within the time specified herein or any extensions thereof pursuant to the terms herein, the Company shall be obligated to pay to the Placement Agent its actual and accountable out-of-pocket expenses related to the transactions contemplated herein then due and payable (including the fees and disbursements of Placement Agent Counsel) up to \$150,000, inclusive of the \$50,000 advance for out-of-pocket accountable expenses previously paid by the Company to the Placement Agent (the “**Advance**”) and upon demand the Company shall pay the full amount thereof to the Placement Agent; provided, however, that such expense cap in no way limits or impairs the indemnification and contribution provisions of this Agreement. Notwithstanding the foregoing, any advance received by the Placement Agent will be reimbursed to the Company to the extent not actually incurred in compliance with FINRA Rule 5110(g)(4)(A).

7.4 Indemnification. Notwithstanding any contrary provision contained in this Agreement, any election hereunder or any termination of this Agreement, and whether or not this Agreement is otherwise carried out, the provisions of Section 5 shall remain in full force and effect and shall not be in any way affected by, such election or termination or failure to carry out the terms of this Agreement or any part hereof.

7.5 Representations, Warranties, Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of the Placement Agent or its affiliates or selling agents, any person controlling the Placement Agent, its officers or directors or any person controlling the Company or (ii) delivery of and payment for the Securities.

8. Miscellaneous.

8.1 Notices. All communications hereunder, except as herein otherwise specifically provided, shall be in writing and shall be mailed (registered or certified mail, return receipt requested), personally delivered or sent by electronic mail transmission and confirmed and shall be deemed given when so delivered and confirmed or if mailed, two (2) days after such mailing.

If to the Placement Agent:

ThinkEquity LLC  
17 State Street, 41<sup>st</sup> Floor  
New York, New York 10004  
Attn: Head of Investment Banking  
Email: [Notices@think-equity.com](mailto:Notices@think-equity.com)

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

Troutman Pepper Hamilton Sanders LLP  
301 S. College Street, 34th Floor  
Charlotte, NC 28202  
Attn: Rakesh Gopalan and David Wolpa  
e-mail: [rakesh.gopalan@troutman.com](mailto:rakesh.gopalan@troutman.com) or [david.wolpa@troutman.com](mailto:david.wolpa@troutman.com)

If to the Company:

TransCode Therapeutics, Inc.  
6 Liberty Square, #2382  
Boston, MA  
Attention: Thomas A. Fitzgerald, Interim Chief Executive Officer  
Email: [tom.fitzgerald@transcodetherapeutics.com](mailto:tom.fitzgerald@transcodetherapeutics.com)

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

Goodwin Procter LLP  
100 Northern Avenue  
Boston, MA 02210  
Attn: Michael Bison  
Email: [mbison@goodwinlaw.com](mailto:mbison@goodwinlaw.com)

8.2 Research Analyst Independence. The Company acknowledges that the Placement Agent’s research analysts and research departments are required to be independent from its investment banking division and are subject to certain regulations and internal policies, and that the Placement Agent’s research analysts may hold views and make statements or investment recommendations and/or publish research reports with respect to the Company and/or the Offering that differ from the views of their investment banking division. The Company acknowledges that the Placement Agent is a full service securities firm and as such from time to time, subject to applicable securities laws, rules and regulations, may effect transactions for its own account or the account of its customers and hold long or short positions in debt or equity securities of the Company; provided, however, that nothing in this Section 8.2 shall relieve the Placement Agent of any responsibility or liability it may otherwise bear in connection with activities in violation of applicable securities laws, rules or regulations.

8.3 Headings. The headings contained herein are for the sole purpose of convenience of reference, and shall not in any way limit or affect the meaning or interpretation of any of the terms or provisions of this Agreement.

8.4 Amendment. This Agreement may only be amended by a written instrument executed by each of the parties hereto.

8.5 Entire Agreement. This Agreement (together with the other agreements and documents being delivered pursuant to or in connection with this Agreement) constitutes the entire agreement of the parties hereto with respect to the subject matter hereof and thereof, and supersedes all prior agreements and understandings of the parties, oral and written, with respect to the subject matter hereof. Notwithstanding anything herein to the contrary, the Engagement Agreement, dated July 18, 2024 (“**Engagement Agreement**”), between the Company and the Placement Agent shall continue to be effective and the terms therein shall continue to survive and be enforceable by the Placement Agent in accordance with its terms, provided that, in the event of a conflict between the terms of the Engagement Agreement and this Agreement, the terms of this Agreement shall prevail.

8.6 Binding Effect. This Agreement shall inure solely to the benefit of and shall be binding upon the Placement Agent, the Company and the controlling persons, directors, officers and other persons referred to in Section 5 hereof, and their respective successors, legal representatives, heirs and assigns, and no other person shall have or be construed to have any legal or equitable right, remedy or claim under or in respect of or by virtue of this Agreement or any provisions herein contained. The term “successors and assigns” shall not include a purchaser, in its capacity as such, of securities from any of the Placement Agent.



8.7 Governing Law; Consent to Jurisdiction; Trial by Jury. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New York, without giving effect to conflict of laws principles thereof. The Company hereby agrees that any action, proceeding or claim against it arising out of, or relating in any way to this Agreement shall be brought and enforced in the New York Supreme Court, County of New York, or in the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenient forum. Any such process or summons to be served upon the Company may be served by transmitting a copy thereof by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 9.1 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the Company in any action, proceeding or claim. The Company agrees that the prevailing party(ies) in any such action shall be entitled to recover from the other party(ies) all of its reasonable attorneys' fees and expenses relating to such action or proceeding and/or incurred in connection with the preparation therefor. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Placement Agent hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

8.8 Execution in Counterparts. This Agreement may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which shall be deemed to be an original, but all of which taken together shall constitute one and the same agreement, and shall become effective when one or more counterparts has been signed by each of the parties hereto and delivered to each of the other parties hereto. Delivery of a signed counterpart of this Agreement by facsimile or email/pdf transmission shall constitute valid and sufficient delivery thereof.

8.9 Waiver, etc. The failure of any of the parties hereto to at any time enforce any of the provisions of this Agreement shall not be deemed or construed to be a waiver of any such provision, nor to in any way effect the validity of this Agreement or any provision hereof or the right of any of the parties hereto to thereafter enforce each and every provision of this Agreement. No waiver of any breach, non-compliance or non-fulfillment of any of the provisions of this Agreement shall be effective unless set forth in a written instrument executed by the party or parties against whom or which enforcement of such waiver is sought; and no waiver of any such breach, non-compliance or non-fulfillment shall be construed or deemed to be a waiver of any other or subsequent breach, non-compliance or non-fulfillment.

*[Signature Page Follows]*

If the foregoing correctly sets forth the understanding between the Placement Agent and the Company, please so indicate in the space provided below for that purpose, whereupon this letter shall constitute a binding agreement between us.

Very truly yours,

TRANSCODE THERAPEUTICS, INC.

By: \_\_\_\_\_  
Name:  
Title:

Confirmed as of the date first written above mentioned

THINKEQUITY LLC

By: \_\_\_\_\_  
Name: Kevin Mangan  
Title: Managing Director, Head of Equity Syndicate

*[Signature Page to Placement Agency Agreement]*

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**SCHEDULE 1**

**Terms**

Number of Shares: 10,000,000

Share Offering Price: \$0.30

Number of Pre-funded Warrants: 0

Offering Price per Pre-Funded Warrant: \$0.299

Net Proceeds to Company (before expenses): \$2,790,000

**SCHEDULE 2**

**Written Testing-the-Waters Communications**

None.

**SCHEDULE 3**

**List of Lock-Up Parties**

1. Thomas A. Fitzgerald
2. Philippe P. Calais
3. Erik Manting
4. Magda Marquet
5. Zdravka Medarova
6. Anna Moore

**EXHIBIT A**

**Placement Agent's Warrant**

*(See attached)*

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**EXHIBIT B**

**Form of Lock-Up Agreement**

*(see attached)*

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EXHIBIT C

**Form of Press Release**

**TRANSCODE THERAPEUTICS, INC.**

**[Date]**

TransCode Therapeutics, Inc. (the “Company”) announced today that ThinkEquity LLC, acting as placement agent in the Company’s recent public offering of \_\_\_\_\_ shares of the Company’s common stock, is [waiving] [releasing] a lock-up restriction with respect to \_\_\_\_\_ shares of the Company’s common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver] [release] will take effect on \_\_\_\_\_, 202[ ], and the shares may be sold on or after such date.

**This press release is not an offer or sale of the securities in the United States or in any other jurisdiction where such offer or sale is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the Securities Act of 1933, as amended.**

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## TransCode Therapeutics, Inc. Announces Proposed Public Offering of Common Stock

July 22, 2024

BOSTON, July 22, 2024 (GLOBE NEWSWIRE) -- TransCode Therapeutics, Inc. (Nasdaq: RNAZ) ("TransCode" or the "Company"), a clinical-stage RNA oncology company committed to more effectively treating cancer using RNA therapeutics, today announced that it intends to offer to sell shares of its common stock (and/or pre-funded warrants ("Pre-funded Warrants") in lieu thereof) in a best efforts public offering. All of the shares of common stock (and/or Pre-funded Warrants) are to be sold by the Company.

ThinkEquity is acting as the sole placement agent for the offering.

The offering is subject to market conditions and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering. The Company intends to use the net proceeds from the offering primarily for product development activities, including one or more clinical trials with TTX-MC138, its lead therapeutic candidate, and related investigational new drug (IND) enabling studies, and for working capital and other general corporate purposes.

The securities will be offered and sold pursuant to a shelf registration statement on Form S-3 (File No. 333-268764), including a base prospectus, filed with the U.S. Securities and Exchange Commission (the "SEC") on December 13, 2022, and declared effective on December 16, 2022. The offering will be made only by means of a written prospectus forming part of the effective shelf registration statement. A preliminary prospectus supplement describing the terms of the offering, and an accompanying prospectus has been or will be filed with the SEC and will be available on the SEC's website at [www.sec.gov](http://www.sec.gov). Copies of the preliminary prospectus supplement and the accompanying prospectus relating to the offering may also be obtained from the offices of ThinkEquity, 17 State Street, 41<sup>st</sup> Floor, New York, New York 10004. Before investing in this offering, interested parties should read in their entirety the preliminary prospectus supplement and the accompanying prospectus and the other documents that the Company has filed with the SEC that are incorporated by reference in such preliminary prospectus supplement and the accompanying prospectus, which provide more information about the Company and such offering.

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

### **About TransCode Therapeutics**

TransCode is a clinical-stage oncology company focused on treating metastatic disease. The company is committed to defeating cancer through the intelligent design and effective delivery of RNA therapeutics based on its proprietary TTX nanoparticle platform. The Company's lead therapeutic candidate, TTX-MC138, is focused on treating metastatic tumors which overexpress microRNA-10b, a unique, well-documented biomarker of metastasis. In addition, TransCode is developing a portfolio of first-in-class RNA therapeutic candidates designed to overcome the challenges of RNA delivery and thus unlock therapeutic access to a variety of novel genetic targets that could be relevant to treating a variety of cancers.

### **Forward-Looking Statements**

This release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, that are subject to substantial risks and uncertainties, including statements related to the completion of the offering. All statements, other than statements of historical fact, contained in this press release are forward-looking statements. Forward-looking statements contained in this press release may be identified by the use of words such as "aim," "anticipate," "believe," "contemplate," "could," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "project," "seek," "should," "target," "will," "would," or the negative of these words or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements are based on the Company's current expectations and are subject to inherent uncertainties and risks that are difficult to predict. Further, certain forward-looking statements are based on assumptions as to future events that may not prove to be accurate. These risks and uncertainties include, but are not limited to: TransCode's ability to satisfy the closing conditions related to the offering and the timing and completion of such closing, the use of the net proceeds of the offering, various other factors, and the continued listing of our common stock on the Nasdaq Capital Market. These and other risks and uncertainties are described more fully in the sections titled "Risk Factors" and "Cautionary Note Regarding Forward-Looking Statements" in the registration statement and in the preliminary prospectus supplement related to the offering described herein, and the Company's annual report on Form 10-K, quarterly report on Form 10-Q and other reports filed with the Securities and Exchange Commission. Forward-looking statements contained in this announcement are made as of this date, and the Company undertakes no duty to update such information except as required under applicable law.

### ***For Investor Relations Inquiries:***

TransCode Therapeutics, Inc.  
Tania Montgomery-Hammon, VP Business Development  
[Tania.montgomery@transcodetherapeutics.com](mailto:Tania.montgomery@transcodetherapeutics.com)



## TransCode Therapeutics, Inc. Announces Pricing of Public Offering

July 23, 2024

BOSTON, July 22, 2024 (GLOBE NEWSWIRE) -- TransCode Therapeutics, Inc. (Nasdaq: RNAZ), ("TransCode" or the "Company"), a clinical-stage RNA oncology company committed to more effectively treating cancer using RNA therapeutics, today announced the pricing of a public offering of 10,000,000 shares of its common stock at a public offering price of \$0.30 per share, for expected gross proceeds of \$3,000,000, before deducting placement agent commissions and offering expenses. All of the shares of common stock are being offered by the Company. The offering is expected to close on July 24, 2024, subject to satisfaction of customary closing conditions.

The Company intends to use the net proceeds from the offering primarily for product development activities, including one or more clinical trials with TTX-MC138, its lead therapeutic candidate, and related investigational new drug (IND) enabling studies, and for working capital and other general corporate purposes.

ThinkEquity is acting as the sole placement agent for the offering.

The securities are being offered and sold pursuant to a shelf registration statement on Form S-3 (File No. 268764), including a base prospectus, filed with the U.S. Securities and Exchange Commission (the "SEC") on December 13, 2022, and declared effective on December 16, 2022. The offering is being made only by means of a written prospectus forming part of the effective shelf registration statement. A preliminary prospectus supplement and accompanying prospectus describing the terms of the offering were filed with the SEC and are available on its website at [www.sec.gov](http://www.sec.gov). A final prospectus supplement relating to the offering will be filed with the SEC and will be available on its website at [www.sec.gov](http://www.sec.gov). Copies of the final prospectus supplement and the accompanying prospectus relating to the offering may also be obtained, when available, from the offices of ThinkEquity, 17 State Street, 41<sup>st</sup> Floor, New York, New York 10004.

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

### About TransCode Therapeutics, Inc.

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### Forward Looking Statements

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### Investor Relations:

TransCode Therapeutics, Inc.  
Tania Montgomery-Hammon  
VP Business Development  
[Tania.montgomery@transcodetherapeutics.com](mailto:Tania.montgomery@transcodetherapeutics.com)