

**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): June 11, 2025**

**TONIX PHARMACEUTICALS HOLDING CORP.**

(Exact name of registrant as specified in its charter)

**Nevada**  
(State or Other Jurisdiction  
of Incorporation)

**001-36019**  
(Commission  
File Number)

**26-1434750**  
(IRS Employer  
Identification No.)

**26 Main Street, Chatham, New Jersey 07928**  
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: **(862) 904-8182**

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 (see General Instruction A.2. below):

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	TNXP	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 June 11, 2025, Tonix Pharmaceuticals Holding Corp. (the “**Company**”) entered into a Sales Agreement (the “**Sales Agreement**”) with A.G.P./Alliance Global Partners (“A.G.P.”), as sales agent, pursuant to which the Company may offer and sell, from time to time, through A.G.P., up to \$150.0 million of shares of its common stock, par value \$0.001 per share (the “**Common Stock**”).

The Company is not obligated to sell any shares under the Sales Agreement. Subject to the terms and conditions of the Sales Agreement, A.G.P. will use commercially reasonable efforts consistent with its normal trading and sales practices, applicable state and federal law, rules and regulations and the rules of The Nasdaq Capital Market (“**Nasdaq**”) to sell shares from time to time based upon the Company’s instructions, including any price, time or size limits specified by the Company. Upon delivery of a placement notice, and subject to the Company’s instructions in that notice, and the terms and conditions of the Sales Agreement generally, A.G.P. may sell the Common Stock by any method permitted by law deemed to be an “at the market offering” as defined by Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended. A.G.P.’s obligations to sell shares under the Sales Agreement are subject to satisfaction of certain conditions, including customary closing conditions.

The Company will pay A.G.P. a commission of 3.0% of the aggregate gross proceeds from each sale of shares and has agreed to provide A.G.P. with customary indemnification and contribution rights. The Company has also agreed to reimburse A.G.P. for certain specified expenses.

Three shares of Common Stock will be offered and sold pursuant to the Company’s effective shelf registration statement on Form S-3 (File No. 333-282270) (the “**Registration Statement**”) filed by the Company with the U.S. Securities and Exchange Commission (the “**SEC**”) on September 20, 2024, and declared effective by the SEC on September 30, 2024, and the accompanying base prospectus included therein, as supplemented by the prospectus supplement, dated June 11, 2025, filed with the SEC.

The foregoing summary of the Sales Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Sales Agreement, which is attached as Exhibit 1.01 to this Current Report on Form 8-K and incorporated by reference into this Item 1.01.

A copy of the legal opinion and consent of Brownstein Hyatt Farber Schreck, LLP relating to the shares of Common Stock being offered and sold pursuant to the Sales Agreement is attached hereto as Exhibit 5.01.

Also on June 11, 2025, the Company entered into a purchase agreement, dated as of June 11, 2025 (the “**Purchase Agreement**”) with Lincoln Park Capital Fund, LLC (“**Lincoln Park**”), pursuant to which the Company will have the right, in its sole discretion, to sell to Lincoln Park up to \$75.0 million of newly issued shares (the “**Purchase Shares**”) of Common Stock, subject to the satisfaction of the certain conditions set forth in the Purchase Agreement, from time to time during the term of the Purchase Agreement. The Purchase Agreement supersedes the prior purchase agreement between the Company and Lincoln Park, dated August 16, 2022.

Concurrently with entering into the Purchase Agreement, the Company also entered into a registration rights agreement, dated as of June 11, 2025 with Lincoln Park, pursuant to which it agreed to take certain actions relating to the registration under the Securities Act of 1933, as amended (the “**Securities Act**”), of the offer and sale of the shares of Common Stock available for issuance under the Purchase Agreement (the “**Registration Rights Agreement**”).

Beginning on the Commencement Date (as defined below) and thereafter, the Company has the right, in its sole discretion, to present Lincoln Park with a purchase notice (a “**Regular Purchase Notice**”), directing Lincoln Park to purchase up to such number of shares of Common Stock equal to the quotient obtained by dividing (i) \$500,000 by (ii) the applicable Purchase Price, as defined in the Purchase Agreement (the “**Regular Purchase Amount**”) provided that the closing sale price of the Common Stock on the purchase date is not below a threshold price set forth in the Purchase Agreement (a “**Regular Purchase**”). If the closing sale price of the Common Stock on the applicable purchase date is not below \$30.00, the Regular Purchase Amount may be increased to such number of shares of Common Stock equal to the quotient obtained by dividing (i) \$750,000 by (ii) the applicable Purchase Price. If the closing sale price of the Common Stock on the applicable purchase date is not below \$40.00, the Regular Purchase Amount may be increased to such number of shares of Common Stock equal to the quotient obtained by dividing (i) \$1,000,000 by (ii) the applicable Purchase Price. The above-referenced limitations and closing sale price thresholds are subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction as provided in the Purchase Agreement. The purchase price per share for each Regular Purchase will be based on prevailing market prices of the Common Stock immediately preceding the time of sale as computed in accordance with the terms set forth in the Purchase Agreement. There are no upper limits on the price per share that Lincoln Park must pay for shares of Common Stock under the Purchase Agreement. The Company may deliver a Regular Purchase Notice as frequently as every business day, subject to the satisfaction of the conditions set forth in the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement or Registration Rights Agreement.

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If the Company directs Lincoln Park to purchase the maximum number of shares of Common Stock that the Company may sell in a Regular Purchase, then in addition to such Regular Purchase, and subject to certain conditions and limitations in the Purchase Agreement, the Company may direct Lincoln Park to purchase additional shares of Common Stock in an “accelerated purchase” (each, an “**Accelerated Purchase**”) and an “additional accelerated purchase” (each, an “**Additional Accelerated Purchase**”) (including multiple Additional Accelerated Purchases on the same trading day) as provided in the Purchase Agreement. The purchase price per share for each Accelerated Purchase and Additional Accelerated Purchase will be based on market prices of the Common Stock on the applicable purchase date for such Accelerated Purchases and such Additional Accelerated Purchases.

The purchase price of Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases will be adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring during the business days used to compute the purchase price.

The aggregate number of shares that the Company can sell to Lincoln Park under the Purchase Agreement may in no case exceed 1,470,703 shares (subject to adjustment as described above) of the Common Stock (which is equal to approximately 19.99% of the shares of the Common Stock outstanding immediately prior to the execution of the Purchase Agreement) (the “**Exchange Cap**”), unless (i) stockholder approval is obtained to issue Purchase Shares above the Exchange Cap, in which case the Exchange Cap will no longer apply, or (ii) the average price of all applicable sales of our Common Stock to Lincoln Park under the Purchase Agreement equals or exceeds \$37.74 per share (which represents the lower of (A) the official closing price of our Common Stock on Nasdaq immediately preceding the execution of the Purchase Agreement and (B) the average official closing price of our Common Stock on Nasdaq for the five consecutive trading days immediately preceding the execution of the Purchase Agreement, adjusted such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable Nasdaq rules).

In all cases, the Purchase Agreement also prohibits the Company from directing Lincoln Park to purchase any shares of Common Stock if those shares, when aggregated with all other shares of Common Stock then beneficially owned by Lincoln Park (as calculated pursuant to Section 13(d) of the Securities Exchange Act of 1934, as amended, and Rule 13d-3 thereunder), would result in Lincoln Park beneficially owning more than 4.99% (which Lincoln Park may increase up to 9.99% upon 61 days’ prior written notice to us) of the then total outstanding shares of Common Stock.

The Company issued 48,708 shares of Common Stock to Lincoln Park as a commitment fee in connection with entering into the Purchase Agreement (the “**Commitment Shares**”) and together with the Purchase Shares, the “**Shares**”).

The Purchase Agreement contains customary representations, warranties, covenants, closing conditions and indemnification and termination provisions. Sales under the Purchase Agreement may commence only after certain conditions have been satisfied (the date on which all requisite conditions have been satisfied, the “**Commencement Date**”), which conditions include the delivery to Lincoln Park of a prospectus supplement covering the shares of Common Stock issued or sold by the Company to Lincoln Park under the Purchase Agreement, the filing with The Nasdaq Stock Market of a Listing of Additional Shares notification with respect to the Shares, and the receipt by Lincoln Park of a customary opinion of counsel and other certificates and closing documents. We anticipate that such conditions will be satisfied on or around June 11, 2025.

The Purchase Agreement may be terminated by the Company at any time, at its sole discretion, without any cost or penalty, by giving one business day notice to Lincoln Park to terminate the Purchase Agreement. Lincoln Park has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Common Stock. Although the Company has agreed to reimburse Lincoln Park for a limited portion of the fees it incurred in connection with the Purchase Agreement, the Company did not pay any additional amounts to reimburse or otherwise compensate Lincoln Park in connection with the transaction, other than the issuance of the Commitment Shares.

There are no limitations on use of proceeds, financial or business covenants, restrictions on future financings (other than restrictions on the Company’s ability to enter into substantially similar transactions described in the Purchase Agreement), rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement. The Company may deliver Purchase Notices under the Purchase Agreement, subject to market conditions, and in light of its capital needs from time to time and under the limitations contained in the Purchase Agreement. Any proceeds that the Company receives under the Purchase Agreement are expected to be used for working capital and general corporate purposes.

The issuance of the Purchase Shares and Commitment Shares have been registered pursuant to the Registration Statement, and the related base prospectus included in the Registration Statement, as supplemented by a prospectus supplement to be filed on or around the Commencement Date (the “**Prospectus Supplement**”).

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The Purchase Agreement and Registration Rights Agreement contain customary representations and warranties, covenants and indemnification provisions that the parties made to, and solely for the benefit of, each other in the context of all of the terms and conditions of such agreements and in the context of the specific relationship between the parties thereto. The provisions of the Purchase Agreement and Registration Rights Agreement, including any representations and warranties contained therein, are not for the benefit of any party other than the parties thereto and are not intended as documents for investors and the public to obtain factual information about the current state of affairs of the parties thereto. Rather, investors and the public should look to other disclosures contained in the Company’s annual, quarterly and current reports it may file with the SEC.

The foregoing summaries of the Purchase Agreement and Registration Rights Agreement do not purport to be complete and are qualified in their entirety by reference to the full texts of the Purchase Agreement and Registration Rights Agreement, which are attached Exhibits 10.01 and 10.02, respectively, to this Current Report on Form 8-K and incorporated by reference into this Item 1.01.

A copy of the legal opinion and consent of Brownstein Hyatt Farber Schreck, LLP relating to the shares of Common Stock being offered and sold pursuant to the Purchase Agreement is attached hereto as Exhibit 5.02.

The information contained in this Current Report on Form 8-K shall not constitute an offer to sell or the solicitation of an offer to buy the shares of the Company's Common Stock discussed herein, nor shall there be any offer, solicitation or sale of the shares in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.

**Item 9.01 Financial Statements and Exhibits.**

(d)	Exhibit No.	Description
	1.01	<a href="#">Sales Agreement, dated June 11, 2025, by and between Tonix Pharmaceuticals Holdings Corp. and A.G.P./Alliance Global Partners</a>
	5.01	<a href="#">Opinion of Brownstein Hyatt Farber Schreck, LLP</a>
	5.02	<a href="#">Opinion of Brownstein Hyatt Farber Schreck, LLP</a>
	10.01	<a href="#">Purchase Agreement, dated June 11, 2025, by and between Tonix Pharmaceuticals Holding Corp. and Lincoln Park Capital Fund, LLC †</a>
	10.02	<a href="#">Registration Rights Agreement, dated June 11, 2025, by and between Tonix Pharmaceuticals Holding Corp. and Lincoln Park Capital Fund, LLC †</a>
	23.01	<a href="#">Consent of Brownstein Hyatt Farber Schreck, LLP (contained in Exhibit 5.01)</a>
	23.02	<a href="#">Consent of Brownstein Hyatt Farber Schreck, LLP (contained in Exhibit 5.02)</a>
	104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

† Certain portions of this exhibit, that are not material and would likely cause competitive harm to the registrant if publicly disclosed, have been redacted pursuant to Item 601(b)(10) of Regulation S-K.

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**SIGNATURE**

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

**TONIX PHARMACEUTICALS HOLDING CORP.**

Date: June 11, 2025

By: /s/ Bradley Saenger  
Bradley Saenger  
Chief Financial Officer

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TONIX PHARMACEUTICALS HOLDING CORP.

COMMON STOCK

SALES AGREEMENT

June 11, 2025

A.G.P./Alliance Global Partners  
590 Madison Avenue, 28th Floor  
New York, NY 10022

Ladies and Gentlemen:

Tonix Pharmaceuticals Holding Corp., a Nevada corporation (the “**Company**”), confirms its agreement (this “**Agreement**”) with A.G.P./Alliance Global Partners, as follows:

1. **Issuance and Sale of Shares.** The Company agrees that, from time to time during the term of this Agreement, on the terms and subject to the conditions set forth herein, it may issue and sell to or through A.G.P./Alliance Global Partners, acting as agent and/or principal (the “**Sales Agent**”), shares of the Company’s common stock, par value \$0.001 per share (the “**Common Stock**”), subject to the limitations set forth in **Section 3(b)** hereof. The issuance and sale of shares of Common Stock to or through the Sales Agent will be effected pursuant to the Registration Statement (as defined below) filed by the Company and which was declared effective under the Securities Act (as defined below) by the U.S. Securities and Exchange Commission (the “**Commission**”) on September 30, 2024.

The Company has filed in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations thereunder (collectively, the “**Securities Act**”), with the Commission, a shelf registration statement on Form S-3 (File No. 333-282270), including a base prospectus, relating to certain securities, including the Common Stock, to be issued from time to time by the Company, and which incorporates by reference documents that the Company has filed or will file in accordance with the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (collectively, the “**Exchange Act**”). The Company has prepared a prospectus supplement specifically relating to the offering of Common Stock pursuant to this Agreement included as part of such registration statement (the “**ATM Prospectus**”). As soon as practicable following the date that such registration statement is declared effective, the Company will furnish to the Sales Agent, for use by the Sales Agent, copies of the ATM Prospectus included as part of such registration statement, relating to the Placement Shares (as defined below). Except where the context otherwise requires, such registration statement, as amended when it becomes effective, including all documents filed as part thereof or incorporated by reference therein, and including any information contained in a Prospectus (as defined below) subsequently filed with the Commission pursuant to Rule 424(b) under the Securities Act or deemed to be a part of such registration statement pursuant to Rule 430B or 462(b) of the Securities Act, is herein called the “**Registration Statement**.” The base prospectus, including all documents incorporated therein by reference (to the extent such information has not been superseded or modified in accordance with Rule 412 under the Securities Act (as qualified by Rule 430B(g) of the Securities Act), and the ATM Prospectus, including all documents incorporated therein by reference (to the extent such information has not been superseded or modified in accordance with Rule 412 under the Securities Act (as qualified by Rule 430B(g) of the Securities Act), each of which is included in the Registration Statement, as it or they may be supplemented by any additional prospectus supplement, in the form in which such prospectus and/or ATM Prospectus have most recently been filed by the Company with the Commission pursuant to Rule 424(b) under the Securities Act, together with any “issuer free writing prospectus” (“**Issuer Free Writing Prospectus**”), as defined in Rule 433 of the Securities Act (“**Rule 433**”), relating to the Placement Shares that (i) is required to be filed with the Commission by the Company or (ii) is exempt from filing pursuant to Rule 433(d)(5)(i), 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), is herein called the “**Prospectus**.” Any reference herein to the Registration Statement, the Prospectus or any amendment or supplement thereto shall be deemed to refer to and include the documents incorporated by reference therein, and any reference herein to the terms “amend,” “amendment” or “supplement” with respect to the Registration Statement or the Prospectus shall be deemed to refer to and include the filing after the execution hereof of any document with the Commission deemed to be incorporated by reference therein. For purposes of this Agreement, all references to the Registration Statement, the Prospectus or to any amendment or supplement thereto shall be deemed to include any copy filed with the Commission pursuant to either the Electronic Data Gathering Analysis and Retrieval System, or if applicable, the Interactive Data Electronic Applications (collectively “**EDGAR**”).

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2. Placements. Each time that the Company wishes to issue and sell the Common Stock through the Sales Agent, as agent, hereunder (each, a **“Placement”**), it will notify the Sales Agent by email notice (or other method mutually agreed to in writing by the parties) (a **“Placement Notice”**) containing the parameters in accordance with which it desires the Common Stock to be sold, which shall at a minimum include the number of shares of Common Stock to be issued (the **“Placement Shares”**), the time period during which sales are requested to be made, any limitation on the number of shares of Common Stock that may be sold in any one Trading Day (as defined in Section 3) and any minimum price below which sales may not be made, a form of which containing such minimum sales parameters necessary is attached hereto as Schedule 1. The Placement Notice shall originate from any of the individuals from the Company set forth on Schedule 2 (with a copy to each of the other individuals from the Company listed on such schedule), and shall be addressed to each of the individuals from the Sales Agent set forth on Schedule 2, as such Schedule 2 may be amended from time to time. The Placement Notice shall be effective upon receipt by the Sales Agent unless and until (i) in accordance with the notice requirements set forth in Section 4, the Sales Agent declines to accept the terms contained therein for any reason, in its sole discretion, (ii) the entire amount of the Placement Shares have been sold, (iii) in accordance with the notice requirements set forth in Section 4, the Company suspends or terminates the Placement Notice, (iv) the Company issues a subsequent Placement Notice with parameters superseding those on the earlier dated Placement Notice, or (v) the Agreement has been terminated under the provisions of Section 11. The amount of any discount, commission or other compensation to be paid by the Company to the Sales Agent in connection with the sale of the Placement Shares through the Sales Agent, as agent, shall be as set forth in Schedule 3. It is expressly acknowledged and agreed that neither the Company nor the Sales Agent will have any obligation whatsoever with respect to a Placement or any Placement Shares unless and until the Company delivers a Placement Notice to the Sales Agent and the Sales Agent does not decline such Placement Notice pursuant to the terms set forth above, and then only upon the terms specified therein and herein. In the event of a conflict between the terms of this Agreement and the terms of a Placement Notice, the terms of the Placement Notice will control.

### 3. Sale of Placement Shares by the Sales Agent

(a) Subject to the terms and conditions herein set forth, upon the Company's issuance of a Placement Notice, and unless the sale of the Placement Shares described therein has been declined, suspended, or otherwise terminated in accordance with the terms of this Agreement, the Sales Agent, as agent for the Company, will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of The Nasdaq Capital Market (the "**Exchange**"), for the period specified in the Placement Notice, to sell such Placement Shares up to the amount specified by the Company in, and otherwise in accordance with the terms of such Placement Notice. If acting as agent hereunder, the Sales Agent will provide written confirmation to the Company (including by email correspondence to each of the individuals of the Company set forth on Schedule 2, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) no later than the opening of the Trading Day (as defined below) immediately following the Trading Day on which it has made sales of Placement Shares hereunder setting forth the number of Placement Shares sold on such day, the volume-weighted average price of the Placement Shares, the compensation payable by the Company to the Sales Agent pursuant to Section 2 with respect to such sales, and the Net Proceeds (as defined below) payable to the Company, with an itemization of the deductions made by the Sales Agent (as set forth in Section 5(a)) from the gross proceeds that it receives from such sales. Subject to the terms of the Placement Notice, the Sales Agent may sell Placement Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 under the Securities Act, including without limitation sales made directly on the Exchange, on any other existing trading market for the Common Stock or to or through a market maker. Subject to the terms of a Placement Notice, the Sales Agent may also sell Placement Shares by any other method permitted by law, including but not limited to in negotiated transactions with the Company's prior written consent. The Company acknowledges and agrees that (i) there can be no assurance that the Sales Agent will be successful in selling Placement Shares, (ii) the Sales Agent will incur no liability or obligation to the Company or any other person or entity if it does not sell Placement Shares for any reason other than a failure by the Sales Agent to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such Placement Shares as required under this Agreement and (iii) the Sales Agent shall be under no obligation to purchase Placement Shares on a principal basis pursuant to this Agreement, except as otherwise agreed by the Sales Agent and the Company in writing and expressly set forth in a Placement Notice. For the purposes hereof, "**Trading Day**" means any day on which the Company's Common Stock is purchased and sold on the principal market on which the Common Stock is listed or quoted.

(b) Under no circumstances shall the Company cause or request the offer or sale of any Placement Shares if, after giving effect to the sale of such Placement Shares, the aggregate number or gross sales proceeds of Placement Shares sold pursuant to this Agreement would exceed the lesser of: (i) the number or dollar amount of shares of Common Stock registered pursuant to the Registration Statement pursuant to which the offering hereunder is being made, (ii) the number of authorized but unissued and unreserved shares of Common Stock, (iii) the number or dollar amount of shares of Common Stock permitted to be offered and sold by the Company under Form S-3 (including General Instruction I.B.6. of Form S-3, if and for so long as applicable), (iv) the number or dollar amount of shares of Common Stock authorized from time to time to be issued and sold under this Agreement by the Company's board of directors, a duly authorized committee thereof or a duly authorized executive committee, and notified to the Sales Agent in writing, or (v) the number or dollar amount of shares of Common Stock for which the Company has filed the ATM Prospectus or other prospectus supplement specifically relating to the offering of the Placement Shares pursuant to this Agreement. Under no circumstances shall the Company cause or request the offer or sale of any Placement Shares pursuant to this Agreement at a price lower than the minimum price authorized from time to time by the Company's board of directors, a duly authorized committee thereof or a duly authorized executive committee, and notified to the Sales Agent in writing. Notwithstanding anything to the contrary contained herein, the parties hereto acknowledge and agree that compliance with the limitations set forth in this Section 3(b) on the number or dollar amount of Placement Shares that may be issued and sold under this Agreement from time to time shall be the sole responsibility of the Company, and that the Sales Agent shall have no obligation in connection with such compliance.

(c) During the term of this Agreement, neither the Sales Agent nor any of its affiliates or subsidiaries shall engage in (i) any short sale of any security of the Company or (ii) any sale of any security of the Company that the Sales Agent does not own or any sale which is consummated by the delivery of a security of the Company borrowed by, or for the account of, the Sales Agent. During the term of this Agreement and notwithstanding anything to the contrary herein, the Sales Agent agrees that in no event will the Sales Agent or its affiliates engage in any market making, bidding, stabilization or other trading activity with regard to the Common Stock or related derivative securities if such activity would be prohibited under Regulation M or other anti-manipulation rules under the Exchange Act.

#### 4. Suspension of Sales.

(a) The Company or the Sales Agent may, upon notice to the other party in writing (including by email correspondence to each of the individuals of the other party set forth on **Schedule 2**, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) or by telephone (confirmed immediately by verifiable facsimile transmission or email correspondence to each of the individuals of the other party set forth on **Schedule 2**), suspend any sale of Placement Shares for a period of time (a “**Suspension Period**”); *provided, however*, that such suspension shall not affect or impair either party’s obligations with respect to any Placement Shares sold hereunder prior to the receipt of such notice. Each of the parties agrees that no such notice under this **Section 4** shall be effective against the other unless it is made to one of the individuals named on **Schedule 2** hereto, as such schedule may be amended from time to time. During a Suspension Period, the Company shall not issue any Placement Notices and the Sales Agent shall not sell any Placement Shares hereunder. The party that issued a suspension notice shall notify the other party in writing of the Trading Day on which the Suspension Period shall expire not later than twenty-four (24) hours prior to such Trading Day.

(b) Notwithstanding any other provision of this Agreement, during any period in which the Company is in possession of material non-public information, the Company and the Sales Agent agree that (i) no sale of Placement Shares will take place, (ii) the Company shall not request the sale of any Placement Shares, and (iii) the Sales Agent shall not be obligated to sell or offer to sell any Placement Shares.

5. Settlement.

(a) Settlement of Placement Shares. Unless otherwise specified in the applicable Placement Notice, settlement for sales of Placement Shares will occur on the first (1st) Trading Day (or such earlier day as is industry practice for regular-way trading) following the respective Point of Sale (as defined below) (each, a “**Settlement Date**”). The amount of proceeds to be delivered to the Company on a Settlement Date against receipt of the Placement Shares sold (the “**Net Proceeds**”) will be equal to the aggregate sales price received by the Sales Agent at which such Placement Shares were sold, after deduction for (i) the Sales Agent’s discount, commission or other compensation for such sales payable by the Company pursuant to Section 2 hereof, and (ii) any transaction fees, trading expenses or execution fees imposed by any clearing organization or any governmental or self-regulatory organization and any other fees incurred by the Sales Agent in respect of such sales.

(b) Delivery of Placement Shares. On or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Placement Shares being sold by crediting the Sales Agent’s or its designee’s account (provided the Sales Agent shall have given the Company written notice of such designee prior to the Settlement Date) at The Depository Trust Company through its Deposit and Withdrawal at Custodian System or by such other means of delivery as may be mutually agreed upon by the parties hereto which in all cases shall be freely tradable, transferable, registered shares in good deliverable form. On each Settlement Date, the Sales Agent will deliver the related Net Proceeds in same day funds to an account designated by the Company on, or prior to, the Settlement Date. The Company agrees that if the Company, or its transfer agent (if applicable), defaults in its obligation to deliver duly authorized Placement Shares on a Settlement Date, through no fault of the Sales Agent, the Company agrees that in addition to and in no way limiting the rights and obligations set forth in Section 9(a) (Indemnification and Contribution) hereto, the Company will (i) hold the Sales Agent, its directors, officers, members, partners, employees and agents of the Sales Agent, each broker dealer affiliate of the Sales Agent, and each person, if any, who (A) controls the Sales Agent within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act or (B) is controlled by or is under common control with the Sales Agent (each, a “**Sales Agent Affiliate**”), and the Sales Agent’s clearing organization, harmless against any loss, claim, damage, or reasonable and documented expense (including reasonable legal fees and expenses), as incurred, arising out of or in connection with such default by the Company or its transfer agent (if applicable) and (ii) pay to the Sales Agent any commission, discount, or other compensation to which it would otherwise have been entitled absent such default.

6. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with, the Sales Agent that as of each Applicable Time (as defined in Section 22(a)), unless such representation, warranty or agreement specifies a different time or times:



( a ) Compliance with Registration Requirements. As of each Applicable Time other than the date of this Agreement, the Registration Statement and any Rule 462(b) Registration Statement have been declared effective by the Commission under the Securities Act. The Company has complied to the Commission's satisfaction with all requests of the Commission for additional or supplemental information related to the Registration Statement and the Prospectus. No stop order suspending the effectiveness of the Registration Statement or any Rule 462(b) Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the knowledge of the Company, are contemplated or threatened by the Commission. The Registration Statement and, assuming no act or omission on the part of the Sales Agent that would make such statements untrue, the offer and sale of the Placement Shares as contemplated hereby meet the requirements of Rule 415 under the Securities Act and comply in all material respects with said Rule. In the section entitled "Plan of Distribution" in the ATM Prospectus, the Company has named A.G.P./Alliance Global Partners as an agent that the Company has engaged in connection with the transactions contemplated by this Agreement. The Company was not and is not an "ineligible issuer" as defined in Rule 405 under the Securities Act.

(b) No Misstatement or Omission. The Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, complied or will comply in all material respects with the Securities Act. The Prospectus, and any amendment or supplement thereto, on the date of such Prospectus or amendment or supplement, complied or will comply in all material respects with the Securities Act. The Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Prospectus, as amended or supplemented, as of its date, did not and, as of each Point of Sale and each Settlement Date, will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the two immediately preceding sentences do not apply to statements in or omissions from the Registration Statement or any post-effective amendment thereto, or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with information relating to the Sales Agent furnished to the Company in writing by the Sales Agent expressly for use therein. "Point of Sale" means, for a Placement, the time at which an acquiror of Placement Shares entered into a contract, binding upon such acquiror, to acquire such Placement Shares.

( c ) Offering Materials Furnished to the Sales Agent. Copies of the Registration Statement, the Prospectus, and all amendments or supplements thereto and all documents incorporated by reference therein that were filed with the Commission on or prior to the date of this Agreement, have been delivered, or are publicly available through EDGAR, to the Sales Agent. Each Prospectus delivered to the Sales Agent for use in connection with the sale of the Placement Shares pursuant to this Agreement will be identical to the version of such Prospectus filed with the Commission via EDGAR, except to the extent permitted by Regulation S-T.

( d ) Distribution of Offering Material By the Company. The Company has not distributed and will not distribute, prior to the completion of the Sales Agent's distribution of the Placement Shares, any offering material in connection with the offering and sale of the Placement Shares other than the Prospectus or the Registration Statement.

(e) The Sales Agreement. This Agreement has been duly authorized, executed and delivered by the Company, and constitutes a valid, legal, and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as rights to indemnity hereunder may be limited by federal or state securities laws and except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the rights of creditors generally, and subject to general principles of equity. The Company has full corporate power and authority to enter into this Agreement and to authorize, issue and sell the Placement Shares as contemplated by this Agreement. This Agreement conforms in all material respects to the descriptions thereof in the Registration Statement and the Prospectus.

(f) Authorization of the Placement Shares. The Placement Shares, when issued and paid for as contemplated herein, will be validly issued, fully paid and nonassessable, will be issued in compliance with all applicable securities laws, and will be free of preemptive, registration or similar rights, and will conform to the description of the Common Stock contained in the Registration Statement and the Prospectus.

(g) No Applicable Registration or Other Similar Rights. There are no persons with registration or other similar rights to have any equity or debt securities registered for sale under the Registration Statement or included in the offering contemplated by this Agreement, except for such rights as have been duly waived. No person has the right to act as an underwriter or as a financial advisor to the Company in connection with the offer and sale of the Placement Shares hereunder, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Placement Shares as contemplated hereby or otherwise.

(h) No Material Adverse Change. Except as otherwise disclosed in the Prospectus, subsequent to the respective dates as of which information is given in the Prospectus: (i) there has been no material adverse change in the business, properties, prospects, operations, condition (financial or otherwise) or results of operations of the Company (any such change is called a “**Material Adverse Change**”), which, individually or in the aggregate, has had or would reasonably be expected to result in a Material Adverse Change; (ii) the Company has not incurred any material liability or obligation, indirect, direct or contingent, not in the ordinary course of business nor entered into any material transaction or agreement not in the ordinary course of business; (iii) there has been no dividend or distribution of any kind declared, paid or made by the Company; (iv) no officer or director of the Company has resigned from any position with the Company; and (v) there has not been any Material Adverse Change in the Company’s long-term debt.

(i) Independent Accountants. To the knowledge of the Company, EisnerAmper LLP, whose report is filed with the Commission and included or incorporated by reference in the Registration Statement and the Prospectus, is an independent registered public accounting firm as required by the Securities Act and the Public Company Accounting Oversight Board.

(j) Financial Statements. The financial statements filed with the Commission as a part of the Registration Statement and included in the Prospectus, together with the related notes and schedules, present fairly, in all material respects, the consolidated financial position of the Company and its subsidiaries as of and at the dates indicated and the results of their operations and cash flows for the periods specified. Such financial statements and supporting schedules have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”) applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. No other financial statements or supporting schedules are required to be included in or incorporated in the Registration Statement.

(k) 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 the Registration Statement or the Prospectus has been made or reaffirmed by the Company without a reasonable basis or has been disclosed by the Company other than in good faith.

(l) Statistical and Marketing-Related Data. The statistical and market-related data included in each of the Registration Statement 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.

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

(n) Incorporation and Good Standing of the Company. The Company is a corporation duly incorporated and validly existing under the laws of the State of Nevada. The Company has requisite corporate power to carry on its business as described in the Prospectus. The Company is duly qualified to transact business and is in good standing in all jurisdictions in which the conduct of its business requires such qualification; except where the failure to be so qualified or to be in good standing would not result in a Material Adverse Change. The Company has no subsidiaries and does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21.1 to the Company's Annual Report on Form 10-K for the most recently ended fiscal year and other than (i) those subsidiaries not required to be listed on Exhibit 21.1 by Item 601 of Regulation S-K under the Exchange Act and (ii) those subsidiaries formed since the last day of the most recently ended fiscal year.

(o) Capital Stock Matters. 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 with respect thereto, 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 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 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. The description of the Company's stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, as described in the Registration Statement and the Prospectus, accurately and fairly present, in all material respects, the information required to be shown with respect to such plans, arrangements, options and rights.

(p) Non-Contravention of Existing Instruments; No Further Authorizations or Approvals Required. The Company's execution, delivery and performance of this Agreement and consummation of the transactions contemplated hereby or by the Registration Statement and the Prospectus (including the issuance and sale of the Placement Shares and the use of the proceeds from the sale of the Placement Shares as described in the Prospectus under the caption "Use of Proceeds") will not (A) result in a material violation of 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), (B) conflict with, result in any violation or breach of, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, or give to others any right of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) (a "**Default Acceleration Event**") of, any agreement, lease, credit facility, debt, note, bond, mortgage, indenture or other instrument ("**Contract**") or obligation or other understanding to which the Company is a party or by which any property or asset of the Company is bound or affected, except to the extent that such conflict, default, or Default Acceleration Event is not reasonably likely to result in a Material Adverse Change, or (C) result in a breach or violation of any of the terms and provisions of, or constitute a default under, the Company's articles of incorporation (as the same may be amended or restated from time to time) or bylaws (as the same may be amended or restated from time to time). The Company is not in violation, breach or default under its articles of incorporation (as the same may be amended or restated from time to time) or bylaws (as the same may be amended or restated from time to time). Neither the Company nor, to its knowledge, any other party is in violation, breach or default of any Contract that has resulted in or could reasonably be expected to result in a Material Adverse Change. Each approval, consent, order, authorization, designation, declaration or filing by or with any regulatory, administrative or other governmental body necessary in connection with the execution and delivery by the Company of this Agreement and the performance of the Company of the transactions herein contemplated has been obtained or made and is in full force and effect, except (i) with respect to any Applicable Time at which the Sales Agent would not be able to rely on Rule 5110(b)(7)(C)(i) of the Financial Industry Regulatory Authority, Inc. ("**FINRA**"), such additional steps as may be required by FINRA, (ii) filings with the Commission required under the Securities Act or the Exchange Act, or filings with the Exchange pursuant to the rules and regulations of the Exchange, in each case that are contemplated by this Agreement to be made after the date of this Agreement, and (iii) such additional steps as may be necessary to qualify the Common Stock for sale by the Sales Agent under state securities or Blue Sky laws.

(q) No Material Actions or 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, including any proceeding before the FDA or comparable federal, state, local or foreign governmental bodies (it being understood that the interaction between the Company and the FDA and such comparable governmental bodies relating to the clinical development and product approval process shall not be deemed proceedings for purposes of this representation), which has not been disclosed in the Registration Statement and the Prospectus which is required to be disclosed, except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change.

(r) Labor Disputes. No labor dispute with the employees of the Company exists or, to the knowledge of the Company, is imminent. The Company is not aware that any key employee or significant group of employees of the Company plans to terminate employment with the Company.

(s) Compliance with Certain Applicable Laws. The Company: (A) is and at all times has been in compliance with all statutes, rules, or regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by the Company ("Applicable Laws"), except as could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Change; (B) has not received any warning letter, untitled letter or other correspondence or notice from any governmental authority alleging or asserting noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits 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, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority 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 authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (E) has not received notice that any governmental authority 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 authority is considering such action; and (F) has filed, obtained, maintained or submitted all material reports, documents, forms, 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).

(t) Tax Law Compliance. The Company 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. The Company 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. The provisions for taxes payable, if any, shown on the financial statements filed with or as part of or incorporated by reference in 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. Other than as disclosed in the Registration Statement and the Prospectus, (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, 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. There are no tax liens against the assets, properties or business of the Company. 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 returns, declarations, reports, statements and other documents required to be filed in respect to taxes.

(u) Company Not an “Investment Company”. The Company is not, and will not be, either after receipt of payment for the Placement Shares or after the application of the proceeds therefrom as described under “Use of Proceeds” in the Registration Statement or the Prospectus, required to register as an “investment company” under the Investment Company Act of 1940, as amended (the “**Investment Company Act**”).

(v) 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, 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.

(w) No Price Stabilization or Manipulation. The Company has not taken, directly or indirectly (without giving any effect to the activities of the Agent), any action designed to or that might cause or result in stabilization or manipulation of the price of the Common Stock or of any “reference security” (as defined in Rule 100 of Regulation M under the Exchange Act (“**Regulation M**”)) with respect to the Common Stock, whether to facilitate the sale or resale of the Placement Shares or otherwise, and has taken no action which would directly or indirectly violate Regulation M.

(x) 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 and the Prospectus that have not been described as required pursuant to the Securities Act.

(y) Exchange Act Compliance. The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the Prospectus or any amendment or supplement thereto, at the time they were or hereafter are filed with the Commission under the Exchange Act, complied and will comply in all material respects with the requirements of the Exchange Act, and, when read together with the other information in the Prospectus, at each Point of Sale and each Settlement Date, will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the 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.

(z) Conformity of Issuer Free Writing Prospectus. Each Issuer Free Writing Prospectus conformed or will conform in all material respects to the requirements of the Securities Act on the date of first use, and the Company has complied or will comply with any filing requirements applicable to such Issuer Free Writing Prospectus pursuant to the Securities Act. Each Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Placement Shares, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, including any document incorporated by reference therein that has not been superseded or modified. The Company has not made any offer relating to the Placement Shares that would constitute an Issuer Free Writing Prospectus without the prior written consent of the Sales Agent. The Company has retained in accordance with the Securities Act all Issuer Free Writing Prospectuses that were not required to be filed pursuant to the Securities Act.

(aa) Compliance with Environmental Laws. The Company is in compliance with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to its business ("**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, to the Company's knowledge, any other entity for whose acts or omissions the Company is or may otherwise be liable) upon any of the property now or previously owned or leased by the Company, 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, except for any violation or liability which would not have, singularly or in the aggregate with all such violations and liabilities, a Material Adverse Change; 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, except for any such disposal, discharge, emission, or other release of any kind which would not have, singularly or in the aggregate with all such discharges and other releases, a Material Adverse Change. In the ordinary course of business, the Company conducts periodic reviews of the effect of Environmental Laws on its business and assets, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or governmental permits issued thereunder, any related constraints on operating activities and any potential liabilities to third parties). On the basis of such reviews, the Company has reasonably concluded that such associated costs and liabilities would not have, singularly or in the aggregate, a Material Adverse Change.

(bb) Intellectual Property. The Company 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 as currently carried on and as described in the Registration Statement and the Prospectus, except as would not be reasonably likely to result in a Material Adverse Change. To the knowledge of the Company, no action or use by the Company necessary for the conduct of its business as currently carried on and as described in the Registration Statement and the Prospectus will involve or give rise to any infringement of, or license or similar fees for, any Intellectual Property Rights of others, except where such action, use, license or fee is not reasonably likely to result in a Material Adverse Change. The Company has not received any notice alleging any such infringement, fee or conflict with 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 6(bb), 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 6(bb), 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 6(bb), 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 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 and the Prospectus and are not described therein. The Registration Statement 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, to the Company's knowledge, any of its officers, directors or employees, or otherwise in violation of the rights of any persons.

(cc) Brokers. The Company is not a party to any contract, agreement or understanding with any person (other than as contemplated by this Agreement) that would give rise to a valid claim against the Company or the Sales Agent for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Placement Shares by the Sales Agent under this Agreement.



(dd) No Outstanding Loans or Other Indebtedness. 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 to or for the benefit of any of the officers or directors of the Company, or any of their respective family members, except as disclosed in the Registration Statement and the Prospectus.

(ee) No Reliance. The Company has not relied upon the Sales Agent or legal counsel for the Sales Agent for any legal, tax or accounting advice in connection with the offering and sale of the Placement Shares.

(ff) Broker-Dealer Status. Neither the Company nor any of its related entities (i) is required to register as a “broker” or “dealer” in accordance with the provisions of the Exchange Act or (ii) directly or indirectly through one or more intermediaries, controls or is a “person associated with a member” or “associated person of a member” (within the meaning of Article I of the NASD Manual administered by FINRA). To the Company’s knowledge, there are no affiliations or associations between any member of FINRA and any of the Company’s officers, directors or 5% or greater security holders, except as set forth in the Registration Statement.

(gg) Public Float Calculation. At the time the Registration Statement and any Rule 462(b) Registration Statement was or will be filed with the Commission, at the time the Registration Statement and any Rule 462(b) Registration Statement was or will be declared effective by the Commission, and at the time the Company’s most recent Annual Report on Form 10-K was filed with the Commission, the Company met or will meet the then applicable requirements for the use of Form S-3 under the Securities Act. As of the close of trading on the Exchange on June 9, 2025, the aggregate market value of the outstanding voting and non-voting common equity (as defined in Rule 405) of the Company held by persons other than affiliates of the Company (pursuant to Rule 144 of the Securities Act, those that directly, or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, the Company) (the “**Non-Affiliate Shares**”), was approximately \$309.0 million (calculated by multiplying (x) the price at which the common equity of the Company was last sold on the Exchange on May 29, 2025 by (y) the number of Non-Affiliate Shares outstanding on June 9, 2025). The Company is not a shell company (as defined in Rule 405) and has not been a shell company for at least 12 calendar months previously and if it has been a shell company at any time previously, has filed current Form 10 information (as defined in Instruction I.B.6. of Form S-3) with the Commission at least 12 calendar months previously reflecting its status as an entity that is not a shell company.

(hh) FINRA Matters. All of the information provided to the Sales Agent or to counsel for the Sales Agent by the Company, its counsel, its officers and directors and, to the Company’s knowledge, the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with the offering of the Placement Shares is true, complete, correct and compliant with FINRA’s rules in all material respects and any letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rules or NASD Conduct Rules is true, complete and correct in all material respects. Except as disclosed in the Registration Statement and the Prospectus, there is no (i) officer or director of the Company, (ii) beneficial owner of 5% or more of any class of the Company’s securities or (iii) beneficial owner of the Company’s unregistered equity securities that were acquired during the 180-day period immediately preceding the date of this Agreement that is an affiliate or associated person of a FINRA member participating in the offer, issuance and sale of the Placement Shares as contemplated by this Agreement and the Registration Statement and the Prospectus (as determined in accordance with the rules and regulations of FINRA).

(ii) Compliance with Orders. The Company is not in violation of any material judgment, decree, or order of any court, arbitrator or other governmental authority.

(jj) Sarbanes-Oxley Act. The Company is in material compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith (the “Sarbanes-Oxley Act”) that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the date hereof.

(kk) Disclosure Controls And Procedures. Except as set forth in the Registration Statement and the Prospectus, the Company maintains systems of “internal control over financial reporting” (as defined under Rules 13a-15 and 15d-15 under the Exchange Act) 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; (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; and (v) the interactive data in eXtensible Business Reporting Language included or incorporated by references in the Registration Statement and the Prospectus fairly present the information called for in all material respects and are prepared in accordance with the Commission’s rules and guidelines applicable thereto. Since the date of the latest audited financial statements included in the Registration Statement and the Prospectus, 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.

(ll) ERISA. 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.

(mm) Contracts and Agreements. The agreements and documents described in the Registration Statement and the Prospectus conform in all material respects to the descriptions thereof contained therein and there are no agreements or other documents required by the Securities Act to be described in the Registration Statement and the Prospectus or to be filed with the Commission as exhibits to the Registration Statement, that have not been so described or filed. Each agreement or other instrument (however characterized or described) to which the Company is a party or by which it is or may be bound or affected and (i) that is referred to in the Registration Statement 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. To the best of the Company's knowledge, 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, judgment, order or decree of any governmental agency or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses (each, a "Governmental Entity"), including, without limitation, those relating to environmental laws and regulations.

(nn) Title to Properties. Except as set forth in the Registration Statement and the Prospectus, the Company has good and marketable title in fee simple to, or has valid rights to lease or otherwise use, all items of real or personal property which are material to the business of the Company, 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; and all of the leases and subleases material to the business of the Company, and under which the Company holds properties described in the Registration Statement and the Prospectus, are in full force and effect, and the Company has not received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company to the continued possession of the leased or subleased premises under any such lease or sublease, which would result in a Material Adverse Change.

(oo) No Unlawful Contributions or Other Payments. No payments or inducements have been made or given, directly or indirectly, to any federal or local official or candidate for, any federal or state office in the United States or foreign offices by the Company or any of its officers or directors, or, to the knowledge of the Company, by any of its employees or agents or any other person in connection with any opportunity, contract, permit, certificate, consent, order, approval, waiver or other authorization relating to the business of the Company, except for such payments or inducements as were lawful under applicable laws, rules and regulations. Neither the Company, nor, to the knowledge of the Company, any director, officer, agent, employee or other person associated with or acting on behalf of the Company, (i) has used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment to any government official or employee from corporate funds; or (iii) made any bribe, unlawful rebate, payoff, influence payment, kickback or other unlawful payment in connection with the business of the Company.

(pp) Foreign Corrupt Practices Act. None of the Company or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company, is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (collectively, the “**FCPA**”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any “foreign official” (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA. The Company has conducted its business in compliance with the FCPA and has instituted and maintains policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(qq) Money Laundering Laws. The operations of the Company 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 agency (collectively, the “**Money Laundering Laws**”) and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(rr) OFAC. None of the Company or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or person acting on behalf of the Company is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department (“**OFAC**”); and the Company will not directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

(ss) Exchange Listing. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and is currently listed on the Exchange under the trading symbol “TNXP”. Except as disclosed in the Registration Statement and the Prospectus, there is no action pending by the Company or, to the Company’s knowledge, the Exchange to delist the Common Stock from the Exchange, nor has the Company received any notification that the Exchange is contemplating terminating such listing. The Company has no intention to delist the Common Stock from the Exchange or to deregister the Common Stock under the Exchange Act, in either case, at any time during the period commencing on the date of this Agreement through and including the 90th calendar day after the termination of this Agreement. The Placement Shares have been approved for listing on the Exchange. The issuance and sale of the Placement Shares under this Agreement does not contravene the rules and regulations of the Exchange.

(tt) Margin Rules. 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 from the issuance, sale and delivery of the Placement Shares as contemplated by this Agreement and as described in the Registration Statement and the Prospectus 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.

(uu) Underwriter Agreements. The Company is not a party to any agreement with an agent or underwriter for any other “at-the-market” or continuous equity transaction.

(vv) Board of Directors. The qualifications of the persons serving as board members of the Company and the overall composition of the Company’s Board of Directors comply with the applicable requirements of the Exchange Act and the Sarbanes-Oxley Act and the listing rules of the Exchange applicable to the Company. 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 of the Company qualify as “independent,” as defined under the listing rules of the Exchange.

(ww) No 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 offer and sale of the Placement Shares hereunder 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.

(xx) No Material Defaults. The Company has not defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, could reasonably be expected to result in a Material Adverse Change. The Company has not filed a report pursuant to Section 13(a) or 15(d) of the Exchange Act since the filing of its last Annual Report on Form 10-K, indicating that it (i) has failed to pay any dividend or sinking fund installment on preferred stock or (ii) has defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, could reasonably be expected to result in a Material Adverse Change.

(yy) Books and Records. The minute books of the Company have been made available to the Sales Agent and counsel for the Sales Agent, and such books (i) contain a substantially complete summary of all meetings and material actions of the board of directors (including each board committee) and stockholders of the Company (or analogous governing bodies and interest holders, as applicable) since the time of its respective incorporation or organization through the date of the latest meeting and action, and (ii) accurately in all material respects reflect all transactions referred to in such minutes.

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

(aaa) Regulatory Matters: Compliance. All preclinical and other nonclinical studies and clinical trials conducted by or on behalf of the Company that are material to the Company have been adequately described in the Registration Statement and the Prospectus, in all material respects. The clinical trials and nonclinical studies conducted by or on behalf of the Company that are described in the Registration Statement and the Prospectus or the results of such trials and studies which are referred to in the Registration Statement 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. The descriptions in the Registration Statement and the Prospectus of the results of such trials and studies are accurate and complete in all material respects and fairly present the data derived from such trials and studies, and the Company has no knowledge of any clinical trials the aggregate results of which are inconsistent with or otherwise call into question the results of any clinical trial conducted by or on behalf of the Company that are described in the Registration Statement and the Prospectus or the results of which are referred to in the Registration Statement and the Prospectus. Except as disclosed in the Registration Statement and the Prospectus, the Company has not received any written notices or other communications 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 of any clinical trial that is described in the Registration Statement and the Prospectus or the results of which are referred to in the Registration Statement and the Prospectus. Except as disclosed in the Registration Statement and the Prospectus, the Company has not received any written notices or other communications 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 a potential product of the Company is or has been rejected or determined to be non-approvable or conditionally approvable; 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.

(bbb) Confidentiality and Non-Competitions. 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.

(ccc) Cybersecurity. The Company and its subsidiaries' information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "**IT Systems**") operate and perform in all material respects as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted, and to the Company's knowledge are free and clear of all material Trojan horses, time bombs, malware and other malicious code. The Company and its subsidiaries have implemented and maintained commercially reasonable safeguards designed to maintain and protect their material confidential information and the integrity, availability, privacy and security of the IT Systems and data, including Personal Data, used in connection with their businesses. "**Personal Data**" means (i) a natural persons' name, street address, telephone number, email address, photograph, social security number, bank information, or customer or account number; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) Protected Health Information as defined by HIPAA; (iv) "personal data" as defined by GDPR; and (v) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation. To the Company's knowledge, there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify a governmental authority or any other person. The Company and its subsidiaries are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(ddd) Compliance with Data Privacy Laws. The Company and its subsidiaries are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, and the European Union General Data Protection Regulation ("**GDPR**") (EU 2016/679) (collectively, the "**Privacy Laws**"). To ensure compliance with the Privacy Laws, the Company and its subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (the "**Policies**"). The Company and its subsidiaries have at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. The Company further certifies that neither it nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

Any certificate signed by an officer of the Company and delivered to the Sales Agent or to counsel for the Sales Agent pursuant to or in connection with this Agreement shall be deemed to be a representation and warranty by the Company to the Sales Agent as to the matters set forth therein.

The Company acknowledges that the Sales Agent and, for purposes of the opinions to be delivered pursuant to Section 7 hereof, counsel to the Company and counsel to the Sales Agent, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

7. Covenants of the Company. The Company covenants and agrees with the Sales Agent that:

(a) Registration Statement Amendments. After the date of this Agreement and during any period in which a Prospectus relating to any Placement Shares is required to be delivered by the Sales Agent under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 153 or Rule 172 under the Securities Act), (i) the Company will notify the Sales Agent promptly of the time when any subsequent amendment to the Registration Statement, other than documents incorporated by reference, has been filed with the Commission and/or has become effective or any subsequent supplement to the Prospectus has been filed and of any request by the Commission for any amendment or supplement to the Registration Statement or Prospectus or for additional information; (ii) the Company will prepare and file with the Commission, promptly upon the Sales Agent's reasonable request, any amendments or supplements to the Registration Statement or Prospectus that, in the Sales Agent's reasonable opinion, may be necessary or advisable in connection with the distribution of the Placement Shares by the Sales Agent (*provided, however*, that the failure of the Sales Agent to make such request shall not relieve the Company of any obligation or liability hereunder, or affect the Sales Agent's right to rely on the representations and warranties made by the Company in this Agreement, and *provided, further*, that the only remedy the Sales Agent shall have with respect to the failure to make such filing shall be to cease making sales under this Agreement until such amendment or supplement is filed); (iii) the Company will not file any amendment or supplement to the Registration Statement or Prospectus, other than documents incorporated by reference, relating to the Placement Shares or a security convertible into the Placement Shares unless a copy thereof has been submitted to the Sales Agent within a reasonable period of time before the filing and the Sales Agent has not reasonably objected thereto (*provided, however*, that the failure of the Sales Agent to make such objection shall not relieve the Company of any obligation or liability hereunder, or affect the Sales Agent's right to rely on the representations and warranties made by the Company in this Agreement, and *provided, further*, that the only remedy the Sales Agent shall have with respect to the failure by the Company to obtain such consent shall be to cease making sales under this Agreement); (iv) the Company will furnish to the Sales Agent at the time of filing thereof a copy of any document that upon filing is deemed to be incorporated by reference into the Registration Statement or Prospectus, except for those documents available via EDGAR; and (v) the Company will cause each amendment or supplement to the Prospectus, other than documents incorporated by reference, to be filed with the Commission as required pursuant to the applicable paragraph of Rule 424(b) of the Securities Act (without reliance on Rule 424(b)(8) of the Securities Act) or, in the case of any documents incorporated by reference, to be filed with the Commission as required pursuant to the Exchange Act, within the time period prescribed.



(b) Notice of Commission Stop Orders. The Company will advise the Sales Agent, promptly after it receives notice or obtains knowledge thereof, of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any notice objecting to, or other order preventing or suspending the use of, the Prospectus, of the suspension of the qualification of the Placement Shares for offering or sale in any jurisdiction, or of the initiation of any proceeding for any such purpose or any examination pursuant to Section 8(e) of the Securities Act, or if the Company becomes the subject of a proceeding under Section 8A of the Securities Act in connection with the offering of the Placement Shares; and it will promptly use its commercially reasonable efforts to prevent the issuance of any stop order or to obtain its withdrawal if such a stop order should be issued. Until such time as any stop order is lifted, the Sales Agent shall cease making offers and sales under this Agreement.

(c) Delivery of Prospectus; Subsequent Changes. During any period in which a Prospectus relating to the Placement Shares is required to be delivered by the Sales Agent under the Securities Act with respect to a pending sale of the Placement Shares (including in circumstances where such requirement may be satisfied pursuant to Rule 153 or Rule 172 under the Securities Act), the Company will comply in all material respects with all requirements imposed upon it by the Securities Act, as from time to time in force, and to file on or before their respective due dates all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Sections 13(a), 13(c), 14, 15(d) or any other provision of or under the Exchange Act. If during such period any event occurs as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during such period it is necessary to amend or supplement the Registration Statement or Prospectus to comply with the Securities Act, the Company will promptly notify the Sales Agent to suspend the offering of Placement Shares during such period and the Company will promptly amend or supplement the Registration Statement or Prospectus (at the expense of the Company) so as to correct such statement or omission or effect such compliance; *provided, however*, that the Company may delay any such amendment or supplement if, in the reasonable judgment of the Company, it is in the best interests of the Company to do so.

(d) Listing of Placement Shares. During any period in which the Prospectus relating to the Placement Shares is required to be delivered by the Sales Agent under the Securities Act with respect to a pending sale of the Placement Shares (including in circumstances where such requirement may be satisfied pursuant to Rule 153 or Rule 172 under the Securities Act), the Company will use its commercially reasonable efforts to cause the Placement Shares to be listed on the Exchange and to qualify the Placement Shares for sale under the securities laws of such jurisdictions as the Sales Agent reasonably designates and to continue such qualifications in effect so long as required for the distribution of the Placement Shares; *provided, however*, that the Company shall not be required in connection therewith to qualify as a foreign corporation or dealer in securities or file a general consent to service of process in any jurisdiction.

(e) Delivery of Registration Statement and Prospectus. The Company will furnish to the Sales Agent and its counsel (at the expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein) and all amendments and supplements to the Registration Statement or Prospectus that are filed with the Commission during any period in which a Prospectus relating to the Placement Shares is required to be delivered under the Securities Act (including all documents filed with the Commission during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as the Sales Agent may from time to time reasonably request and, at the Sales Agent's request, will also furnish copies of the Prospectus to each exchange or market on which sales of the Placement Shares may be made; *provided, however*, that the Company shall not be required to furnish any document (other than the Prospectus) to the Sales Agent to the extent such document is available on EDGAR.

(f) Earnings Statement. The Company will make generally available to its security holders as soon as practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement of the Company (which need not be audited) covering a 12-month period that complies with Section 11(a) and Rule 158 of the Securities Act. The terms "earnings statement" and "make generally available to its security holders" shall have the meanings set forth in Rule 158 under the Securities Act.

(g) Expenses. The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is terminated in accordance with the provisions of Section 11 hereunder, will pay the following expenses all incident to the performance of its obligations hereunder, including, but not limited to, expenses relating to (i) the preparation, printing and filing of the Registration Statement and each amendment and supplement thereto, of each Prospectus and of each amendment and supplement thereto, (ii) the preparation, issuance and delivery of the Placement Shares, including any stock or other transfer taxes and any stamp or other duties payable upon the sale, issuance or delivery of the Placement Shares to the Sales Agent, (iii) the fees and disbursements of the counsel, accountants and other advisors to the Company in connection with the transactions contemplated by this Agreement; (iv) the qualification of the Placement Shares under securities laws in accordance with the provisions of Section 7(d) of this Agreement, including filing fees (*provided, however*, that any fees or disbursements of counsel for the Sales Agent in connection therewith shall be paid by the Sales Agent except as set forth in (ix) below), (v) the printing and delivery to the Sales Agent of copies of the Prospectus and any amendments or supplements thereto, and of this Agreement, (vi) the fees and expenses incurred in connection with the listing or qualification of the Placement Shares for trading on the Exchange, (vii) the fees and expenses of the transfer agent or registrar for the Common Stock; (viii) filing fees and expenses, if any, of the Commission and the FINRA Corporate Financing Department (*provided, however*, that any fees or disbursements of counsel for the Sales Agent in connection therewith shall be paid by the Sales Agent except as set forth in (ix) below) and (ix) the Company shall reimburse the Sales Agent for its reasonable and documented out-of-pocket expenses (including but not limited to the reasonable and documented fees and expenses of counsel to the Sales Agent) in an amount not to exceed \$40,000.

(h) Use of Proceeds. The Company will use the Net Proceeds as described in the Prospectus in the section entitled "Use of Proceeds."

(i) Notice of Other Sales. The Company (I) shall provide the Sales Agent notice as promptly as reasonably possible before it offers to sell, contracts to sell, sells, grants any option to sell or otherwise disposes of any shares of Common Stock (other than Placement Shares offered pursuant to the provisions of this Agreement) or securities convertible into or exchangeable for Common Stock, or warrants or any rights to purchase or acquire Common Stock, during the period beginning on the fifth (5<sup>th</sup>) Trading Day immediately prior to the date on which any Placement Notice is delivered to the Sales Agent hereunder and ending on the fifth (5<sup>th</sup>) Trading Day immediately following the final Settlement Date with respect to Placement Shares sold pursuant to such Placement Notice (or, if the Placement Notice has been terminated or suspended prior to the sale of all Placement Shares covered by a Placement Notice, the fifth (5<sup>th</sup>) Trading Day immediately following the date of such suspension or termination), and (II) will not directly or indirectly in any other “at-the-market” or continuous equity transaction offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any shares of Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for shares of Common Stock, warrants or any rights to purchase or acquire, shares of Common Stock prior to the termination of this Agreement; *provided, however*, that such notice requirements or restrictions, as the case may be, will not be required in connection with the Company’s issuance or sale of (i) shares of Common Stock, options to purchase shares of Common Stock, other equity awards or shares of Common Stock issuable upon the exercise of options or other equity awards, pursuant to any employee or director stock option or benefits plan, stock ownership plan or dividend reinvestment plan of the Company whether now in effect or hereafter implemented, (ii) shares of Common Stock issuable upon exchange, conversion or redemption of securities or the exercise of warrants, options or other rights in effect or outstanding, and disclosed in filings by the Company available on EDGAR or otherwise in writing (including by email correspondence) to the Sales Agent (iii) shares of Common Stock or securities convertible into or exchangeable for shares of Common Stock as consideration for mergers, acquisitions, sale or purchase of assets or other business combinations or strategic alliances occurring after the date of this Agreement which are not issued for capital raising purposes and (iv) shares of Common Stock or securities convertible into or exchangeable for shares of Common Stock sold in an “equity line of credit”, “at-the-market offering” or other continuous offering or similar offering of Common Stock or securities convertible into or exchangeable for shares of Common Stock, whereby the Company may sell Common Stock or securities convertible into or exchangeable for shares of Common Stock at a future determined price. Notwithstanding the foregoing, the Company shall provide the Sales Agent notice at least two (2) days prior to pursuing any private or public offerings of equity and/or other securities (including debt securities) in one or more transactions.

(j) Change of Circumstances. The Company will, at any time during a fiscal quarter in which the Company intends to tender a Placement Notice or sell Placement Shares, advise the Sales Agent promptly after it shall have received notice or obtained knowledge thereof, of any information or fact that would alter or affect in any material respect any opinion, certificate, letter or other document provided to the Sales Agent pursuant to this Agreement.

(k) Due Diligence Cooperation. The Company will cooperate with any reasonable due diligence review conducted by the Sales Agent or its agents in connection with the transactions contemplated hereby, including, without limitation, providing information and making available documents and senior corporate officers, during regular business hours and at the Company’s principal offices, as the Sales Agent may reasonably request.

(l) Required Filings Relating to Placement of Placement Shares. The Company shall set forth in each Annual Report on Form 10-K and Quarterly Report on Form 10-Q filed by the Company with the Commission in respect of any quarter in which sales of Placement Shares were made by or through the Sales Agent under this Agreement, with regard to the relevant period, the amount of Placement Shares sold to or through the Sales Agent, the Net Proceeds to the Company and the compensation payable by the Company to the Sales Agent with respect to such sales of Placement Shares. To the extent that the filing of a prospectus supplement with the Commission with respect to any sales of Placement Shares becomes required under Rule 424(b) under the Securities Act, the Company agrees that, on or before such dates as the Securities Act shall require, the Company will (i) file a prospectus supplement with the Commission under the applicable paragraph of Rule 424(b) under the Securities Act, which prospectus supplement will set forth, with regard to the relevant period, the amount of Placement Shares sold to or through the Sales Agent, the Net Proceeds to the Company and the compensation payable by the Company to the Sales Agent with respect to such Placement Shares, and (ii) deliver such number of copies of each such prospectus supplement to each exchange or market on which such sales were effected as may be required by the rules or regulations of such exchange or market. The Company shall afford the Sales Agent and its counsel with a reasonable opportunity to review and comment upon, shall consult with the Sales Agent and its counsel on the form and substance of, and shall give due consideration to all such comments from the Sales Agent or its counsel on, any such filing prior to the issuance, filing or public disclosure thereof; provided, however, that the Company shall not be required to submit for review (A) any portion of any periodic reports filed with the Commission under the Exchange Act other than the specific disclosure relating to any sales of Placement Shares and (B) any disclosure contained in periodic reports filed with the Commission under the Exchange Act if it shall have previously provided the same disclosure for review in connection with a previous filing.

(m) Representation Dates; Certificate. On or prior to the date the first Placement Notice is given hereunder and each time the Company (i) files the Prospectus relating to the Placement Shares or amends or supplements the Registration Statement or the Prospectus relating to the Placement Shares (other than (A) a prospectus supplement filed in accordance with Section 7(l) of this Agreement or (B) a supplement or amendment that relates to an offering of securities other than the Placement Shares) by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of document(s) by reference to the Registration Statement or the Prospectus relating to the Placement Shares; (ii) files an annual report on Form 10-K under the Exchange Act (including any Form 10-K/A containing amended financial information or a material amendment to the previously filed Form 10-K); (iii) files a quarterly report on Form 10-Q under the Exchange Act; or (iv) files a current report on Form 8-K containing amended financial information (other than an earnings release, to “furnish” information pursuant to Items 2.02 or 7.01 of Form 8-K or to provide disclosure pursuant to Item 8.01 of Form 8-K relating to the reclassification of certain properties as discontinued operations in accordance with Statement of Financial Accounting Standards No. 144) under the Exchange Act (each date of filing of one or more of the documents referred to in clauses (i) through (iv) shall be a “**Representation Date**”), the Company shall furnish the Sales Agent within three (3) Trading Days after each Representation Date with a certificate, in the form attached hereto as Exhibit 7(m). The requirement to provide a certificate under this Section 7(m) shall be waived for any Representation Date occurring at a time at which no Placement Notice is pending, which waiver shall continue until the earlier to occur of the date the Company delivers a Placement Notice hereunder (which for such calendar quarter shall be considered a Representation Date) and the next occurring Representation Date; *provided, however*, that such waiver shall not apply for any Representation Date on which the Company files its annual report on Form 10-K. Notwithstanding the foregoing, if the Company subsequently decides to sell Placement Shares following a Representation Date when the Company relied on such waiver and did not provide the Sales Agent with a certificate under this Section 7(m), then before the Company delivers the Placement Notice or the Sales Agent sells any Placement Shares, the Company shall provide the Sales Agent with a certificate, in the form attached hereto as Exhibit 7(m), dated the date of the Placement Notice.

(n) Legal Opinion. On or prior to the date the first Placement Notice is given hereunder, the Company shall cause to be furnished to the Sales Agent (i) the written opinion and negative assurance of Lowenstein Sandler LLP, as counsel to the Company, or other counsel reasonably satisfactory to the Sales Agent (“**SEC Counsel**”), (ii) the written opinion and negative assurance of Haley Giuliano LLP, intellectual property counsel to the Company, or other counsel reasonably satisfactory to the Sales Agent (“**Intellectual Property Counsel**”), and (iii) the written opinion of Brownstein Hyatt Farber Schreck, LLP, as local Nevada counsel to the Company (“**Nevada Counsel**”) and, together with SEC Counsel and Intellectual Property Counsel, “**Company Counsel**”), in each case substantially in the forms previously agreed between the Company and the Sales Agent. Thereafter, within three (3) Trading Days after each Representation Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 7(m) for which no waiver is applicable pursuant to Section 7(m), and not more than once per calendar quarter, the Company shall cause to be furnished to the Sales Agent the written opinion and negative assurance of each Company Counsel substantially in the forms previously agreed between the Company and the Sales Agent, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented; *provided, however*, that if each Company Counsel has previously furnished to the Sales Agent such written opinion and negative assurance of such counsel, in each case substantially in the forms previously agreed between the Company and the Sales Agent, then each Company Counsel may, in respect of any future Representation Date, furnish the Sales Agent with a letter signed by such counsel (each, a “**Reliance Letter**”) in lieu of such opinion and negative assurance of such counsel to the effect that the Sales Agent may rely on the prior opinion and negative assurance of such counsel delivered pursuant to this Section 7(n) to the same extent as if it were dated the date of such Reliance Letter (except that statements in such prior opinion and negative assurance shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented to the date of such Reliance Letter).

(o) Comfort Letter. On or prior to the date the first Placement Notice is given hereunder and within three (3) Trading Days after each subsequent Representation Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 7(m) for which no waiver is applicable pursuant to Section 7(m), other than a Representation Date under Section 7(m)(iii) or Section 7(m)(iv) unless with respect to a Representation Date under Section 7(m)(iv) the Sales Agent reasonably requests delivery thereof, the Company shall cause its independent accountants to furnish the Sales Agent letters (the “**Comfort Letters**”), dated the date that the Comfort Letter is delivered, in form and substance satisfactory to the Sales Agent, (i) confirming that they are an independent registered public accounting firm within the meaning of the Securities Act, the Exchange Act and the rules and regulations of the PCAOB and are in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X of the Commission, (ii) stating, as of such date, the conclusions and findings of such firm with respect to the financial information and other matters ordinarily covered by accountants’ “comfort letters” to the Sales Agent in connection with registered public offerings (the first such letter, the “**Initial Comfort Letter**”) and (iii) updating the Initial Comfort Letter with any information that would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letter.

(p) Market Activities. The Company will not, directly or indirectly, (i) take any action designed to cause or result in, or that constitutes or might reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Common Stock or (ii) sell, bid for, or purchase shares of Common Stock in violation of Regulation M, or pay anyone any compensation for soliciting purchases of the Placement Shares other than the Sales Agent.

(q) Insurance. The Company shall maintain insurance in such amounts and covering such risks as is reasonable and customary for the business in which it is engaged.

(r) Investment Company Act. The Company will conduct its affairs in such a manner so as to reasonably ensure that it is not and, after giving effect to the offering and sale of the Placement Shares and the application of proceeds therefrom as described in the Prospectus, will not be, an “investment company” within the meaning of such term under the Investment Company Act.

(s) Securities Act and Exchange Act. The Company will use its reasonable best efforts to comply with all requirements imposed upon it by the Securities Act and the Exchange Act as from time to time in force, so far as necessary to permit the continuance of sales of, or dealings in, the Placement Shares as contemplated by the provisions hereof and the Prospectus.

(t) No Offer to Sell. Other than the Prospectus and an Issuer Free Writing Prospectus approved in advance by the Company and the Sales Agent in its capacity as principal or agent hereunder, neither the Sales Agent nor the Company (including its agents and representatives, other than the Sales Agent in its capacity as such) will make, use, prepare, authorize, approve or refer to any written communication (as defined in Rule 405 under the Securities Act), required to be filed with the Commission, that constitutes an offer to sell or solicitation of an offer to buy Placement Shares hereunder.

(u) Sarbanes-Oxley Act. The Company will use its reasonable best efforts to comply with all effective applicable provisions of the Sarbanes-Oxley Act.

(v) Transfer Agent. The Company shall maintain, at its sole expense, a registrar and transfer agent for the Common Stock.

8. Conditions to the Sales Agent's Obligations. The obligations of the Sales Agent hereunder with respect to a Placement will be subject to the continuing accuracy and completeness of the representations and warranties made by the Company herein, to the due performance by the Company of its obligations hereunder, to the completion by the Sales Agent of a due diligence review satisfactory to the Sales Agent in its reasonable judgment, and to the continuing satisfaction (or waiver by the Sales Agent in its sole discretion) of the following additional conditions:

(a) Registration Statement Effective. The Registration Statement shall be effective and shall be available for the sale of all Placement Shares contemplated to be issued by any Placement Notice.

(b) Securities Act Filings Made. The Company shall have filed with the Commission the ATM Prospectus pursuant to Rule 424(b) under the Securities Act not later than the Commission's close of business on the second Business Day following the date of this Agreement. All other filings with the Commission required by Rule 424(b) or Rule 433 under the Securities Act to have been filed prior to the issuance of any Placement Notice hereunder shall have been made within the applicable time period prescribed for such filing by Rule 424(b) (without reliance on Rule 424(b)(8) of the Securities Act) or Rule 433, as applicable.

(c) No Material Notices. None of the following events shall have occurred and be continuing: (i) receipt by the Company of any request for additional information from the Commission or any other federal or state governmental authority during the period of effectiveness of the Registration Statement, the response to which would require any post-effective amendments or supplements to the Registration Statement or the Prospectus; (ii) the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of the Registration Statement or the initiation of any proceedings for that purpose; (iii) receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Placement Shares for sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; (iv) the occurrence of any event that makes any material statement made in the Registration Statement or the Prospectus or any material document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires the making of any changes in the Registration Statement, related Prospectus or such documents so that, in the case of the Registration Statement, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading and, that in the case of the Prospectus, it will not contain any materially 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.

(d) No Misstatement or Material Omission. The Sales Agent shall not have advised the Company that the Registration Statement or Prospectus, or any amendment or supplement thereto, contains an untrue statement of fact that in the Sales Agent's reasonable opinion is material, or omits to state a fact that in the Sales Agent's reasonable opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

(e) Material Changes. Except as contemplated in the Prospectus, or disclosed in the Company's reports filed with the Commission, there shall not have been any material adverse change in the authorized capital stock of the Company or any Material Adverse Change or any development that could reasonably be expected to result in a Material Adverse Change, the effect of which, in the case of any such action by a rating organization described above, in the reasonable judgment of the Sales Agent (without relieving the Company of any obligation or liability it may otherwise have), is so material as to make it impracticable or inadvisable to proceed with the offering of the Placement Shares on the terms and in the manner contemplated by this Agreement and the Prospectus.

(f) Representation Certificate. The Sales Agent shall have received the certificate required to be delivered pursuant to Section 7(m) on or before the date on which delivery of such certificate is required pursuant to Section 7(m).

(g) Legal Opinions. The Sales Agent shall have received the opinion and negative assurance of each Company Counsel required to be delivered pursuant Section 7(n) on or before the date on which such delivery of such opinion and negative assurance is required pursuant to Section 7(n).

(h) Comfort Letter. The Sales Agent shall have received the Comfort Letter required to be delivered pursuant Section 7(o) on or before the date on which such delivery of such Comfort Letter is required pursuant to Section 7(o).

(i) Officer's Certificate. On or prior to the date the first Placement Notice is given hereunder, the Sales Agent shall have received a certificate, signed on behalf of the Company by its President and Chief Executive Officer, certifying as to (i) the articles of incorporation of the Company (as the same may be amended or restated from time to time), (ii) the bylaws of the Company (as the same may be amended or restated from time to time), (iii) the resolutions of the Board of Directors of the Company (or a committee thereof) authorizing the execution, delivery and performance of this Agreement and the issuance of the Placement Shares and (iv) the incumbency of the officers duly authorized to execute this Agreement and the other documents contemplated by this Agreement.

(j) No Suspension. Trading in the Common Stock shall not have been suspended on the Exchange and the Common Stock shall not have been delisted from the Exchange.

(k) Other Materials. On each date on which the Company is required to deliver a certificate pursuant to Section 7(m), the Company shall have furnished to the Sales Agent such appropriate further opinions, certificates, letters and documents as the Sales Agent may have reasonably requested. All such opinions, certificates, letters and other documents shall have been in compliance with the provisions hereof. The Company will furnish the Sales Agent with such conformed copies of such opinions, certificates, letters and other documents as the Sales Agent shall have reasonably requested.

(l) Approval for Listing. The Placement Shares shall either have been (i) approved for listing on the Exchange, subject only to notice of issuance, or (ii) the Company shall have filed an application for listing of the Placement Shares on the Exchange at, or prior to, the issuance of any Placement Notice.

(m) No Termination Event. There shall not have occurred any event that would permit the Sales Agent to terminate this Agreement pursuant to Section 11(a).

(n) FINRA. The Sales Agent shall have received a letter from the Corporate Financing Department of FINRA confirming that such department has determined to raise no objection with respect to the fairness or reasonableness of the terms and arrangements related to the sale of the Placement Shares pursuant to this Agreement.



## 9. Indemnification and Contribution.

(a) Company Indemnification. The Company agrees to indemnify and hold harmless the Sales Agent, the directors, officers, members, partners, employees and agents of the Sales Agent each broker dealer affiliate of the Sales Agent, and each the Sales Agent Affiliate, if any, from and against any and all losses, claims, liabilities, expenses and damages (including, but not limited to, any and all reasonable investigative, legal and other expenses incurred in connection with, and any and all amounts paid in settlement (in accordance with Section 9(c)) of, any action, suit or proceeding between any of the indemnified parties and any indemnifying parties or between any indemnified party and any third party, or otherwise, or any claim asserted), as and when incurred, to which the Sales Agent, or any such person, may become subject under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, liabilities, expenses or damages arise out of or are based, directly or indirectly, on (x) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or the Prospectus or any amendment or supplement thereto or in any Issuer Free Writing Prospectus or in any application or other document executed by or on behalf of the Company or based on written information furnished by or on behalf of the Company filed in any jurisdiction in order to qualify the Common Stock under the securities laws thereof or filed with the Commission, (y) the omission or alleged omission to state in any such document a material fact required to be stated in it or necessary to make the statements in it not misleading or (z) any breach by any of the indemnifying parties of any of their respective representations, warranties and agreements contained in this Agreement; *provided, however*, that this indemnity agreement shall not apply to the extent that such loss, claim, liability, expense or damage arises from the sale of the Placement Shares pursuant to this Agreement and is caused directly by an untrue statement or omission made in reliance upon and in strict conformity with written information relating to the Sales Agent and furnished to the Company by the Sales Agent expressly for inclusion in any document as described in clause (x) of this Section 9(a). This indemnity agreement will be in addition to any liability that the Company might otherwise have.

(b) The Sales Agent Indemnification. The Sales Agent agrees to indemnify and hold harmless the Company and its directors and each officer of the Company that signed the Registration Statement, and each person, if any, who (i) controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act or (ii) is controlled by or is under common control with the Company (each, a “Company Affiliate”) from and against any and all losses, claims, liabilities, expenses and damages (including, but not limited to, any and all reasonable investigative, legal and other expenses incurred in connection with, and any and all amounts paid in settlement (in accordance with Section 9(c)) of, any action, suit or proceeding between any of the indemnified parties and any indemnifying parties or between any indemnified party and any third party, or otherwise, or any claim asserted), as and when incurred, to which any such Company Affiliate, may become subject under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, at common law or otherwise, insofar as such losses, claims, liabilities, expenses or damages arise out of or are based, directly or indirectly, on (x) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or the Prospectus or any amendment or supplement thereto, or (y) the omission or alleged omission to state in any such document a material fact required to be stated in it or necessary to make the statements in it not misleading; *provided, however*, that this indemnity agreement shall apply only to the extent that such loss, claim, liability, expense or damage is caused directly by an untrue statement or omission made in reliance upon and in strict conformity with written information relating to the Sales Agent and furnished to the Company by the Sales Agent expressly for inclusion in any document as described in clause (x) of this Section 9(b).

(c) Procedure. Any party that proposes to assert the right to be indemnified under this Section 9 will, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 9, notify each such indemnifying party of the commencement of such action, enclosing a copy of all papers served, but the omission so to notify such indemnifying party will not relieve the indemnifying party from (i) any liability that it might have to any indemnified party otherwise than under this Section 9 and (ii) any liability that it may have to any indemnified party under the foregoing provision of this Section 9 unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel reasonably satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any legal or other expenses except as provided below and except for the reasonable costs of investigation subsequently incurred by the indemnified party in connection with the defense. The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless (1) the employment of counsel by the indemnified party has been authorized in writing by the indemnifying party, (2) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (3) a conflict or potential conflict exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party) or (4) the indemnifying party has not in fact employed counsel to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, in each of which cases the reasonable fees, disbursements and other charges of counsel will be at the expense of the indemnifying party or parties. It is understood that the indemnifying party or parties shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees, disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction at any one time for all such indemnified party or parties. All such fees, disbursements and other charges will be reimbursed by the indemnifying party promptly as they are incurred. An indemnifying party will not, in any event, be liable for any settlement of any action or claim effected without its written consent. No indemnifying party shall, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding relating to the matters contemplated by this Section 9 (whether or not any indemnified party is a party thereto), unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising or that may arise out of such claim, action or proceeding.

(d) Contribution. In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of this Section 9 is applicable in accordance with its terms but for any reason is held to be unavailable from the Company or the Sales Agent, the Company and the Sales Agent will contribute to the total losses, claims, liabilities, expenses and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, but after deducting any contribution received by the Company from persons other than the Sales Agent, such as persons who control the Company within the meaning of the Securities Act, officers of the Company who signed the Registration Statement and directors of the Company, who also may be liable for contribution) to which the Company and the Sales Agent may be subject in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and the Sales Agent on the other. The relative benefits received by the Company on the one hand and the Sales Agent on the other hand shall be deemed to be in the same proportion as the total Net Proceeds from the sale of the Placement Shares (before deducting expenses) received by the Company bear to the total compensation received by the Sales Agent from the sale of Placement Shares on behalf of the Company. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable law, the allocation of contribution shall be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing sentence but also the relative fault of the Company, on the one hand, and the Sales Agent, on the other, with respect to the statements or omission that resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations with respect to such offering. Such relative fault shall be determined by reference to, among other things, 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 Sales Agent, 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 Sales Agent agree that it would not be just and equitable if contributions pursuant to this Section 9(d) were to be determined by pro rata allocation 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, liability, expense, or damage, or action in respect thereof, referred to above in this Section 9(d) shall be deemed to include, for the purpose of this Section 9(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim to the extent consistent with Section 9(c) hereof. Notwithstanding the foregoing provisions of this Section 9(d), the Sales Agent shall not be required to contribute any amount in excess of the commissions received by it under this Agreement and no person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 9(d), any person who controls a party to this Agreement within the meaning of the Securities Act will have the same rights to contribution as that party (and any officers, directors, members, partners, employees or agents of the Sales Agent and each broker dealer affiliate of the Sales Agent will have the same rights to contribution as the Sales Agent), and each officer of the Company who signed the Registration Statement and each director of the Company will have the same rights to contribution as the Company, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 9(d), will notify any such party or parties from whom contribution may be sought, but the omission to so notify will not relieve that party or parties from whom contribution may be sought from any other obligation it or they may have under this Section 9(d) except to the extent that the failure to so notify such other party materially prejudiced the substantive rights or defenses of the party from whom contribution is sought. Except for a settlement entered into pursuant to the last sentence of Section 9(c) hereof, no party will be liable for contribution with respect to any action or claim settled without its written consent if such consent is required pursuant to Section 9(c) hereof.

10. Representations and Agreements to Survive Delivery. The indemnity and contribution agreements contained in Section 9 of this Agreement and all representations and warranties of the Company herein or in certificates delivered pursuant hereto shall survive, as of their respective dates, regardless of (i) any investigation made by or on behalf of the Sales Agent, any controlling person of the Sales Agent, or the Company (or any of their respective officers, directors, members or controlling persons), (ii) delivery and acceptance of the Placement Shares and payment therefor or (iii) any termination of this Agreement.

11. Termination.

(a) The Sales Agent shall have the right by giving notice as hereinafter specified at any time to terminate this Agreement if (i) any Material Adverse Change, or any development that could reasonably be expected to result in a Material Adverse Change has occurred that, in the reasonable judgment of the Sales Agent, may materially impair the ability of the Sales Agent to sell the Placement Shares hereunder, (ii) the Company shall have failed, refused or been unable to perform any agreement on its part to be performed hereunder; *provided, however*, in the case of any failure of the Company to deliver (or cause another person to deliver) any certification, opinion, or letter required under Sections 7(m), 7(n), 7(o) or 7(p), the Sales Agent's right to terminate shall not arise unless such failure to deliver (or cause to be delivered) continues for more than thirty (30) days from the date such delivery was required, (iii) any other condition of the Sales Agent's obligations hereunder is not fulfilled, or (iv) any suspension or limitation of trading in the Placement Shares or in securities generally on the Exchange shall have occurred (including automatic halt in trading pursuant to market-decline triggers, other than those in which solely program trading is temporarily halted), or a major disruption of securities settlements or clearing services in the United States shall have occurred, or minimum prices for trading have been fixed on the Exchange. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g) (Expenses), Section 9 (Indemnification and Contribution), Section 10 (Representations and Agreements to Survive Delivery), Section 11(f), Section 16 (Applicable Law; Consent to Jurisdiction) and Section 17 (Waiver of Jury Trial) hereof shall remain in full force and effect notwithstanding such termination. If the Sales Agent elects to terminate this Agreement as provided in this Section 11(a), the Sales Agent shall provide the required notice as specified in Section 12 (Notices).

(b) The Company shall have the right, by giving ten (10) days' notice as hereinafter specified in Section 12, to terminate this Agreement in its sole discretion at any time after the date of this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g), Section 9, Section 10, Section 11(f), Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(c) The Sales Agent shall have the right, by giving ten (10) days' notice as hereinafter specified in Section 12, to terminate this Agreement in its sole discretion at any time after the date of this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(g), Section 9, Section 10, Section 11(f), Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(d) Unless earlier terminated pursuant to this Section 11, this Agreement shall automatically terminate upon the earlier to occur of (i) issuance and sale of all of the Placement Shares to or through the Sales Agent on the terms and subject to the conditions set forth herein and (ii) the expiration of the Registration Statement on the third (3<sup>rd</sup>) anniversary of the initial effective date of the Registration Statement pursuant to Rule 415(a)(5) under the Securities Act; *provided* that the provisions of Section 7(g), Section 9, Section 10, Section 11(f), Section 16 and Section 17 hereof shall remain in full force and effect notwithstanding such termination.

(e) This Agreement shall remain in full force and effect unless terminated pursuant to Sections 11(a), (b), (c) or (d) above or otherwise by mutual agreement of the parties; *provided, however*, that any such termination by mutual agreement shall in all cases be deemed to provide that Section 7(g), Section 9, Section 10, Section 11(f), Section 16 and Section 17 shall remain in full force and effect.

(f) Any termination of this Agreement shall be effective on the date specified in such notice of termination; *provided, however*, that such termination shall not be effective until the close of business on the date of receipt of such notice by the Sales Agent or the Company, as the case may be. If such termination shall occur prior to the Settlement Date for any sale of Placement Shares, such termination shall not become effective until the close of business on such Settlement Date and such Placement Shares shall settle in accordance with the provisions of this Agreement.

12. Notices. All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement shall be in writing, unless otherwise specified, and if sent to the Sales Agent, shall be delivered to:

A.G.P./Alliance Global Partners  
590 Madison Avenue, 28th Floor  
New York, NY 10022  
Attention: Tom Higgins  
Email: atm@allianceg.com

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

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.  
919 Third Avenue  
New York, New York 10022  
Attention: Ivan K. Blumenthal, Esq.  
Facsimile: (212) 983-3115

and if to the Company, shall be delivered to:

Tonix Pharmaceuticals Holding Corp.  
Attention: Seth Lederman  
26 Main Street, Suite 101  
Chantham, New Jersey 07928  
Facsimile: (212) 923-5700

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

Lowenstein Sandler LLP  
One Lowenstein Drive  
Roseland, NJ 07068  
Attention: Michael Lerner  
Facsimile: (973) 597-2500

Each party may change such address for notices by sending to the other party to this Agreement written notice of a new address for such purpose. Each such notice or other communication shall be deemed given (i) when delivered personally or by verifiable facsimile transmission (with an original to follow) on or before 4:30 p.m., New York City time, on a Business Day or, if such day is not a Business Day, on the next succeeding Business Day, (ii) on the next Business Day after timely delivery to a nationally-recognized overnight courier and (iii) on the Business Day actually received if deposited in the U.S. mail (certified or registered mail, return receipt requested, postage prepaid). For purposes of this Agreement, "**Business Day**" shall mean any day on which the Exchange and commercial banks in the City of New York are open for business.

An electronic communication ("**Electronic Notice**") shall be deemed written notice for purposes of this Section 12 if sent to the electronic mail address specified by the receiving party under separate cover. Electronic Notice shall be deemed received at the time the party sending Electronic Notice receives confirmation of receipt by the receiving party (other than pursuant to auto-reply). Any party receiving Electronic Notice may request and shall be entitled to receive the notice on paper, in a nonelectronic form ("**Nonelectronic Notice**") which shall be sent to the requesting party within ten (10) days of receipt of the written request for Nonelectronic Notice.

13. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the Company and the Sales Agent and their respective successors and permitted assigns and, as to Sections 5(b) and 9, the other indemnified parties specified therein. References to any of the parties contained in this Agreement shall be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement, express or implied, is intended to confer upon any other person any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Neither party may assign its rights or obligations under this Agreement without the prior written consent of the other party; *provided, however*, that the Sales Agent may assign its rights and obligations hereunder to an affiliate of the Sales Agent without obtaining the Company's consent.

14. Adjustments for Share Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement shall be adjusted to take into account any share split, share dividend or similar event effected with respect to the Common Stock.

15. Entire Agreement; Amendment; Severability. This Agreement (including all schedules and exhibits attached hereto and Placement Notices issued pursuant hereto) and any other writing entered into by the parties relating to this Agreement constitutes the entire agreement and supersedes all other prior and contemporaneous agreements and undertakings, both written and oral, among the parties hereto with regard to the subject matter hereof. Neither this Agreement nor any term hereof may be amended except pursuant to a written instrument executed by the Company and the Sales Agent. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable as written by a court of competent jurisdiction, then such provision shall be given full force and effect to the fullest possible extent that it is valid, legal and enforceable, and the remainder of the terms and provisions herein shall be construed as if such invalid, illegal or unenforceable term or provision was not contained herein, but only to the extent that giving effect to such provision and the remainder of the terms and provisions hereof shall be in accordance with the intent of the parties as reflected in this Agreement.

16. Applicable Law; Consent to Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the internal laws of the State of New York, without regard to the principles of conflicts of laws. Each party hereby irrevocably submits to the non-exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection with any transaction contemplated hereby, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof (certified or registered mail, return receipt requested) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

17. Waiver of Jury Trial. The Company and the Sales Agent each hereby irrevocably waives any right it may have to a trial by jury in respect of any claim based upon or arising out of this Agreement or any transaction contemplated hereby.

18. Absence of Fiduciary Relationship. The Company acknowledges and agrees that:

(a) the Sales Agent is acting solely as agent in connection with the sale of the Placement Shares contemplated by this Agreement and the process leading to such transactions, and no fiduciary or advisory relationship between the Company or any of its respective affiliates, stockholders (or other equity holders), creditors or employees or any other party, on the one hand, and the Sales Agent, on the other hand, has been or will be created in respect of any of the transactions contemplated by this Agreement, irrespective of whether the Sales Agent has advised or is advising the Company on other matters, and the Sales Agent has no obligation to the Company with respect to the transactions contemplated by this Agreement, except the obligations expressly set forth in this Agreement;

(b) the Company is capable of evaluating and understanding and understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) the Sales Agent has not provided any legal, accounting, regulatory or tax advice with respect to the transactions contemplated by this Agreement, and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate;

(d) the Company has been advised and is aware that the Sales Agent and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Sales Agent has no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

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

19. Use of Information. The Sales Agent may not provide any information gained in connection with this Agreement and the transactions contemplated by this Agreement, including due diligence, to any third party other than its legal counsel advising it on this Agreement unless expressly approved by the Company in writing.

20. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Delivery of an executed Agreement by one party to the other may be made by facsimile transmission.

21. Effect of Headings; Knowledge of the Company. The section and Exhibit headings herein are for convenience only and shall not affect the construction hereof. All references in this Agreement to the “knowledge of the Company” or the “Company’s knowledge” or similar qualifiers shall mean the actual knowledge of the directors and officers of the Company, after due inquiry.

22. Definitions. As used in this Agreement, the following term has the meaning set forth below:

(a) “*Applicable Time*” means the date of this Agreement, each Representation Date, each date on which a Placement Notice is given, each Point of Sale, and each Settlement Date.

**[Remainder of Page Intentionally Blank]**



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

Very truly yours,

**TONIX PHARMACEUTICALS HOLDING CORP.**

By: /s/ Seth Lederman  
Name: Seth Lederman  
Title: Chief Executive Officer

**ACCEPTED as of the date first-above written:**

**A.G.P./ALLIANCE GLOBAL PARTNERS**

By: /s/ Tom Higgins  
Name: Tom Higgins  
Title: Managing Director

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**Form of Placement Notice**

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From: Tonix Pharmaceuticals Holding Corp.

To: A.G.P./Alliance Global Partners  
Attention: [•]

Subject: Placement Notice

Date: [•], 202[•]

Ladies and Gentlemen:

Pursuant to the terms and subject to the conditions contained in the Sales Agreement (the “**Sales Agreement**”) between Tonix Pharmaceuticals Holding Corp., a Nevada corporation (the “**Company**”), and A.G.P./Alliance Global Partners (the “**Sales Agent**”), dated June 10, 2025, the Company hereby requests that the Sales Agent sell up to [•] shares of the Company’s common stock, par value \$0.001 per share (the “**Placement Shares**”), at a minimum market price of \$[•] per share, during the time period beginning [month, day, time] and ending [month, day, time] [and with no more than [•] Placement Shares sold in any one Trading Day].

[The Company may include such other sale parameters as it deems appropriate.]

Capitalized terms used and not defined herein shall have the respective meanings assigned to them in the Sales Agreement.

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**Notice Parties**

**Tonix Pharmaceuticals Holding Corp.**

Bradley Saenger (Bradley.Saenger@tonixpharma.com)

Jessica Morris (Jessica.Morris@tonixpharma.com)

With copies to:

Bradley Saenger (Bradley.Saenger@tonixpharma.com)

**The Sales Agent**

Tom Higgins (thiggins@allianceg.com)

With copies to:

atm@allianceg.com

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**Compensation**

The Company shall pay to the Sales Agent in cash, upon each sale of Placement Shares through the Sales Agent pursuant to this Agreement, an amount equal to 3.00% of the aggregate gross proceeds from each sale of Placement Shares.\*

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\* The foregoing rate of compensation shall not apply when the Sales Agent purchases Placement Shares on a principal basis, in which case the Company may sell the Placement Shares to the Sales Agent as principal at a price to be mutually agreed upon by the Company and the Sales Agent at the relevant Point of Sale pursuant to the applicable Placement Notice (it being hereby acknowledged and agreed that the Sales Agent shall be under no obligation to purchase Placement Shares on a principal basis pursuant to the Sales Agreement, except as otherwise agreed by the Sales Agent and the Company in writing and expressly set forth in a Placement Notice).

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**Exhibit 7(m)**

**OFFICER CERTIFICATE**

*The undersigned, the duly qualified and appointed \_\_\_\_\_ of Tonix Pharmaceuticals Holding Corp., a Nevada corporation (the "**Company**"), does hereby certify in such capacity and on behalf of the Company, pursuant to Section 7(m) of the Sales Agreement, dated June 10, 2025 (the "**Sales Agreement**"), between the Company and A.G.P./Alliance Global Partners, that:*

- (i) the representations and warranties of the Company in Section 6 of the Sales Agreement (A) to the extent such representations and warranties are subject to qualifications and exceptions contained therein relating to materiality or Material Adverse Change, are true and correct on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof, except for those representations and warranties that speak solely as of a specific date and which were true and correct as of such date, and (B) to the extent such representations and warranties are not subject to any qualifications or exceptions, are true and correct in all material respects as of the date hereof as if made on and as of the date hereof with the same force and effect as if expressly made on and as of the date hereof except for those representations and warranties that speak solely as of a specific date and which were true and correct as of such date; and;
  - (ii) the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied pursuant to the Sales Agreement at or prior to the date hereof;
  - (iii) as of the date hereof, (i) the Registration Statement does not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading, (ii) the Prospectus does not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading and (iii) no event has occurred as a result of which it is necessary to amend or supplement the Registration Statement or the Prospectus in order to make the statements therein not untrue or misleading for clauses (i) and (ii) above, respectively, to be true and correct;
  - (iv) there has been no Material Adverse Change since the date as of which information is given in the Prospectus, as amended or supplemented;
  - (v) the Company will not be in possession of any material non-public information at the time of delivery of any Placement Notice and/or as long as such Placement Notice is effective; and
  - (vi) the aggregate offering price of the Placement Shares that may be issued and sold pursuant to the Sales Agreement and the maximum number or amount of Placement Shares that may be sold pursuant to the Sales Agreement have been duly authorized by the Company's board of directors or a duly authorized committee thereof.
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Terms used herein and not defined herein have the meanings ascribed to them in the Sales Agreement.

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

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

Name:

Title:

\_\_\_\_\_



Brownstein Hyatt Farber Schreck, LLP  
702.382.2101 main  
100 North City Parkway, Suite 1600  
Las Vegas, Nevada 89106

June 11, 2025

Tonix Pharmaceuticals Holding Corp.  
26 Main Street, Suite 101  
Chatham, New Jersey 07928

To the addressee set forth above:

We have acted as local Nevada counsel to Tonix Pharmaceuticals Holding Corp., a Nevada corporation (the "Company"), in connection with the potential issuance and sale by the Company from time to time of shares (the "Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), having an aggregate offering price of up to \$150,000,000, pursuant to that certain Sales Agreement, dated as of June 11, 2025 (the "Sales Agreement"), by and between A.G.P./Alliance Global Partners, as sales agent (in such capacity, the "Sales Agent"), and the Company, all as more fully described in the Registration Statement on Form S-3 (File No. 333-282270) (the "Registration Statement"), including the base prospectus, dated September 30, 2024, contained therein, as supplemented by the prospectus supplement dated June 11, 2025 (collectively, the "Prospectus"), each as filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Act"). This opinion letter is being furnished at your request in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In our capacity as such counsel, we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the authorization, issuance and sale of the Shares as contemplated by the Sales Agreement and as described in the Registration Statement and the Prospectus. For purposes of this opinion letter, and except to the extent set forth in the opinion below, we have assumed that all such proceedings have been or will be timely completed in the manner presently proposed in the Sales Agreement and the Registration Statement and the Prospectus.

For purposes of issuing this opinion letter, we have made such legal and factual examinations and inquiries, including an examination of originals or copies certified or otherwise identified to our satisfaction as being true copies of (i) the Registration Statement and the Prospectus, (ii) the Sales Agreement, including the form of placement notice thereunder (each, a "Placement Notice"), (iii) the articles of incorporation and bylaws of the Company; and (iv) such agreements, instruments, resolutions of the board of directors of the Company and committees thereof and other corporate records, and such other documents as we have deemed necessary or appropriate, and we have obtained from officers and other representatives and agents of the Company and from public officials, and have relied upon, such certificates, representations and assurances, and public filings, as we have deemed necessary or appropriate.

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Without limiting the generality of the foregoing, in our examination, we have, with your permission, assumed without independent verification: (i) the statements of fact and all representations and warranties set forth in the documents we have reviewed are true and correct as to factual matters, in each case as of the date or dates of such documents and as of the date hereof; (ii) each natural person executing any of the documents we have reviewed has sufficient legal capacity to do so; (iii) all documents submitted to us as originals are authentic, the signatures on all documents that we have reviewed are genuine and all documents submitted to us as certified, conformed, photostatic, facsimile or electronic copies conform to the original document; (iv) all corporate records made available to us by the Company, and all public records we have reviewed, are accurate and complete; (v) the obligations of each party set forth in the Sales Agreement and each Placement Notice are or will be its valid and binding obligations, enforceable in accordance with its terms; (vi) prior to any issuance of Shares, the Placement Notice with respect to such Shares will have been duly executed and delivered by the Company in accordance with the Sales Agreement; and (vii) after any issuance of Shares, the total number of issued and outstanding shares of Common Stock, together with the total number of shares of Common Stock then reserved for issuance or obligated to be issued by the Company pursuant to any agreement or arrangement or otherwise, will not exceed the total number of shares of Common Stock then authorized under the Company's articles of incorporation.

We are qualified to practice law in the State of Nevada. The opinion set forth herein are expressly limited to and based exclusively on the general corporate laws of the State of Nevada, and we do not purport to be experts on, or to express any opinion with respect to the applicability or effect of, the laws of any other jurisdiction. We express no opinion concerning, and we assume no responsibility as to laws or judicial decisions related to, or any orders, consents or other authorizations or approvals as may be required by, any federal laws, rules or regulations, including, without limitation, any federal securities laws, rules or regulations, or any state securities or "blue sky" laws, rules or regulations.

Based upon the foregoing and in reliance thereon, and having regard to legal considerations and other information that we deem relevant, we are of the opinion that if, when and to the extent any Shares are issued and sold in accordance with the terms and conditions of, and in the manner contemplated by, the Sales Agreement (including delivery by the Company of the Placement Notice relating to such Shares and payment in full to the Company of the consideration for such Shares as required thereunder and under the Sales Agreement), and in accordance with the proceedings described in, and in the manner contemplated by, the Registration Statement and Prospectus, such Shares will be validly issued, fully paid and nonassessable.

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Tonix Pharmaceuticals Holding Corp.

June 11, 2025

Page 3

The opinion expressed herein are based upon the applicable laws of the State of Nevada and the facts in existence on the date hereof. In delivering this opinion letter to you, we disclaim any obligation to update or supplement the opinion set forth herein or to apprise you of any changes in any laws or facts after the later of the date hereof and the filing date of the Prospectus Supplement. No opinion is offered or implied as to any matter, and no inference may be drawn, beyond the strict scope of the specific issues expressly addressed by the opinion set forth herein.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and the Prospectus, and to the reference to our firm therein under the heading "Legal Matters". In giving such consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Brownstein Hyatt Farber Schreck, LLP

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Brownstein Hyatt Farber Schreck, LLP  
702.382.2101 main  
100 North City Parkway, Suite 1600  
Las Vegas, Nevada 89106

June 11, 2025

Tonix Pharmaceuticals Holding Corp.  
26 Main Street, Suite 101  
Chatham, New Jersey 07928

To the addressee set forth above:

We have acted as local Nevada counsel to Tonix Pharmaceuticals Holding Corp., a Nevada corporation (the "Company"), in connection with the issuance and sale by the Company of up to such number of shares having an aggregate offering price of up to \$75,000,000 (the "Purchase Shares" and together with the Commitment Shares (as defined in the Purchase Agreement), the "Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), pursuant to that certain Purchase Agreement, dated as of June 11, 2025 (the "Purchase Agreement"), by and between Lincoln Park Capital Fund, LLC and the Company, all as more fully described in the Registration Statement on Form S-3 (File No. 333-282270) (the "Registration Statement"), including the base prospectus, dated September 30, 2024, contained therein, as supplemented by the prospectus supplement dated June 11, 2025 (collectively, the "Prospectus"), each as filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Act"). This opinion letter is being furnished at your request in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In our capacity as such counsel, we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the authorization, issuance and sale of the Shares as contemplated by the Purchase Agreement and as described in the Registration Statement and the Prospectus. For purposes of this opinion letter, and except to the extent set forth in the opinion below, we have assumed that all such proceedings have been or will be timely completed in the manner presently proposed in the Purchase Agreement and the Registration Statement and the Prospectus.

For purposes of issuing this opinion letter, we have made such legal and factual examinations and inquiries, including an examination of originals or copies certified or otherwise identified to our satisfaction as being true copies of (i) the Registration Statement and the Prospectus, (ii) the Purchase Agreement, including the form of purchase notice thereunder (each, a "Purchase Notice"); (iii) the articles of incorporation and bylaws of the Company; and (iv) such agreements, instruments, resolutions of the board of directors of the Company and committees thereof and other corporate records, and such other documents as we have deemed necessary or appropriate, and we have obtained from officers and other representatives and agents of the Company and from public officials, and have relied upon, such certificates, representations and assurances, and public filings, as we have deemed necessary or appropriate.

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Without limiting the generality of the foregoing, in our examination, we have, with your permission, assumed without independent verification: (i) the statements of fact and all representations and warranties set forth in the documents we have reviewed are true and correct as to factual matters, in each case as of the date or dates of such documents and as of the date hereof; (ii) each natural person executing any of the documents we have reviewed has sufficient legal capacity to do so; (iii) all documents submitted to us as originals are authentic, the signatures on all documents that we have reviewed are genuine and all documents submitted to us as certified, conformed, photostatic, facsimile or electronic copies conform to the original document; (iv) all corporate records made available to us by the Company, and all public records we have reviewed, are accurate and complete; (v) the obligations of each party set forth in the Purchase Agreement and each Purchase Notice are or will be its valid and binding obligations, enforceable in accordance with its terms; (vi) prior to any issuance of Shares, the Purchase Notice with respect to such Shares will have been duly executed and delivered by the Company in accordance with the Purchase Agreement; and (vii) after any issuance of Shares, the total number of issued and outstanding shares of Common Stock, together with the total number of shares of Common Stock then reserved for issuance or obligated to be issued by the Company pursuant to any agreement or arrangement or otherwise, will not exceed the total number of shares of Common Stock then authorized under the Company's articles of incorporation.

We are qualified to practice law in the State of Nevada. The opinion set forth herein are expressly limited to and based exclusively on the general corporate laws of the State of Nevada, and we do not purport to be experts on, or to express any opinion with respect to the applicability or effect of, the laws of any other jurisdiction. We express no opinion concerning, and we assume no responsibility as to laws or judicial decisions related to, or any orders, consents or other authorizations or approvals as may be required by, any federal laws, rules or regulations, including, without limitation, any federal securities laws, rules or regulations, or any state securities or "blue sky" laws, rules or regulations.

Based upon the foregoing and in reliance thereon, and having regard to legal considerations and other information that we deem relevant, we are of the opinion that if, when and to the extent any Shares are issued and sold in accordance with the terms and conditions of, and in the manner contemplated by, the Purchase Agreement (including delivery by the Company of the Purchase Notice relating to such Shares and payment in full to the Company of the consideration for such Shares as required thereunder and under the Purchase Agreement), and in accordance with the proceedings described in, and in the manner contemplated by, the Registration Statement and Prospectus, such Shares will be validly issued, fully paid and nonassessable.

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Tonix Pharmaceuticals Holding Corp.

June 11, 2025

Page 3

The opinion expressed herein are based upon the applicable laws of the State of Nevada and the facts in existence on the date hereof. In delivering this opinion letter to you, we disclaim any obligation to update or supplement the opinion set forth herein or to apprise you of any changes in any laws or facts after the later of the date hereof and the filing date of the Prospectus Supplement. No opinion is offered or implied as to any matter, and no inference may be drawn, beyond the strict scope of the specific issues expressly addressed by the opinion set forth herein.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and the Prospectus, and to the reference to our firm therein under the heading "Legal Matters". In giving such consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Brownstein Hyatt Farber Schreck, LLP

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**PURCHASE AGREEMENT**

**PURCHASE AGREEMENT** (the “Agreement”), dated as of June 11, 2025, by and between **TONIX PHARMACEUTICALS HOLDING CORP.**, a Nevada corporation (the “Company”), **LINCOLN PARK CAPITAL FUND, LLC**, an Illinois limited liability company (the “Investor”).

**WHEREAS:**

Subject to the terms and conditions set forth in this Agreement, the Company wishes to sell to the Investor, and the Investor wishes to buy from the Company, up to Seventy-Five Million Dollars (\$75,000,000) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”). The shares of Common Stock to be purchased by the Investor hereunder are referred to herein as the “Purchase Shares.”

NOW THEREFORE, in consideration of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and the Investor, intending to be legally bound, hereby agree as follows:

**1. CERTAIN DEFINITIONS.**

For purposes of this Agreement, the following terms shall have the following meanings:

(a) “Accelerated Purchase Date” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the Business Day immediately following the applicable Regular Purchase Date with respect to the corresponding Regular Purchase referred to in clause (i) of the second sentence of Section 2(b) hereof.

(b) “Accelerated Purchase Floor Price” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, \$1.00, which shall be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction and, effective upon the consummation of any such reorganization, recapitalization, non-cash dividend, stock split or other similar transaction, the Accelerated Purchase Floor Price shall mean the lower of (i) the adjusted price and (ii) \$1.00.

(c) “Accelerated Purchase Minimum Price Threshold” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the minimum per share price threshold set forth by the Company (if any) in the applicable Accelerated Purchase Notice.

(d) “Accelerated Purchase Notice” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to purchase the number of Purchase Shares specified by the Company therein as the Accelerated Purchase Share Amount to be purchased by the Investor (such specified Accelerated Purchase Share Amount subject to adjustment in accordance with Section 2(b) hereof as necessary to give effect to the Purchase Share amount limitations applicable to such Accelerated Purchase Share Amount as set forth in this Agreement) at the applicable Accelerated Purchase Price on the applicable Accelerated Purchase Date for such Accelerated Purchase.

(e) “Accelerated Purchase Price” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, ninety-seven percent (97%) of the lower of (i) the VWAP for the period beginning at 9:30:01 a.m., Eastern time, on the applicable Accelerated Purchase Date, or such other time publicly announced by the Principal Market as the official open (or commencement) of trading on the Principal Market on such applicable Accelerated Purchase Date, or such later time on the applicable Accelerated Purchase Date as mutually agreed by the Company and the Investor and set forth in the applicable Accelerated Purchase Notice for such Accelerated Purchase (the “Accelerated Purchase Commencement Time”), and ending at the earliest of (A) 4:00:00 p.m., Eastern time, on such applicable Accelerated Purchase Date, or such other time publicly announced by the Principal Market as the official close of trading on the Principal Market on such applicable Accelerated Purchase Date, (B) such time, from and after the Accelerated Purchase Commencement Time for such Accelerated Purchase, that the total number (or volume) of shares of Common Stock traded on the Principal Market has exceeded the applicable Accelerated Purchase Share Volume Maximum, and (C) such time, from and after the Accelerated Purchase Commencement Time for such Accelerated Purchase, that the Sale Price has fallen below the applicable Accelerated Purchase Minimum Price Threshold (if any) (such earliest of (i)(A), (i)(B) and (i)(C) above, the “Accelerated Purchase Ending Time”), and (ii) the Closing Sale Price of the Common Stock on such applicable Accelerated Purchase Date (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(f) “Accelerated Purchase Share Amount” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the number of Purchase Shares directed by the Company to be purchased by the Investor in an applicable Accelerated Purchase Notice, which number of Purchase Shares shall not exceed the lesser of (i) 300% of the number of Purchase Shares directed by the Company to be purchased by the Investor pursuant to the corresponding Regular Purchase referred to in clause (i)(A) of the second sentence of Section 2(b) hereof (such corresponding Regular Purchase being subject to the applicable Regular Purchase Share Limit) and (ii) an amount equal to (A) the Accelerated Purchase Share Percentage multiplied by (B) the total number (or volume) of shares of Common Stock traded on the Principal Market during the period on the applicable Accelerated Purchase Date beginning at the Accelerated Purchase Commencement Time for such Accelerated Purchase and ending at the Accelerated Purchase Ending Time for such Accelerated Purchase; provided, however, that that the parties may mutually agree to increase the Accelerated Purchase Share Amount applicable to any Accelerated Purchase.

(g) “Accelerated Purchase Share Percentage” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, thirty percent (30%).

(h) “Accelerated Purchase Share Volume Maximum” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, a number of shares of Common Stock equal to (i) the number of Purchase Shares specified by the Company in the applicable Accelerated Purchase Notice as the Accelerated Purchase Share Amount to be purchased by the Investor in such Accelerated Purchase, divided by (ii) the Accelerated Purchase Share Percentage (to be appropriately adjusted for any applicable reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(i) “Additional Accelerated Purchase Date” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the Business Day (i) that is the Accelerated Purchase Date with respect to the corresponding Accelerated Purchase referred to in clause (i) of the proviso in the second sentence of Section 2(c) hereof and (ii) on which the Investor receives, prior to 1:00 p.m., Eastern time, on such Business Day, a valid Additional Accelerated Purchase Notice for such Additional Accelerated Purchase in accordance with this Agreement.

(j) “Additional Accelerated Purchase Minimum Price Threshold” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the minimum per share price threshold (if any) set forth by the Company in the applicable Additional Accelerated Purchase Notice.

(k) “Additional Accelerated Purchase Notice” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to purchase the number of Purchase Shares specified by the Company therein as the Additional Accelerated Purchase Share Amount to be purchased by the Investor (such specified Additional Accelerated Purchase Share Amount subject to adjustment in accordance with Section 2(c) hereof as necessary to give effect to the Purchase Share amount limitations applicable to such Additional Accelerated Purchase Share Amount as set forth in this Agreement) at the applicable Additional Accelerated Purchase Price on the applicable Additional Accelerated Purchase Date for such Additional Accelerated Purchase.

(l) “Additional Accelerated Purchase Price” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, ninety-seven percent (97%) of the lower of (i) the VWAP for the period on the applicable Additional Accelerated Purchase Date, beginning at the time mutually agreed by the Company and the Investor and set forth in the applicable Additional Accelerated Purchase Notice delivered by the Company to the Investor with respect to such Additional Accelerated Purchase, which shall not be earlier than the latest of (A) the applicable Accelerated Purchase Ending Time with respect to the corresponding Accelerated Purchase referred to in clause (i) of the proviso in the second sentence of Section 2(c) hereof on such Additional Accelerated Purchase Date, (B) the applicable Additional Accelerated Purchase Ending Time with respect to the most recently completed prior Additional Accelerated Purchase on such Additional Accelerated Purchase Date, as applicable, and (C) the time at which all Purchase Shares subject to all prior Accelerated Purchases and Additional Accelerated Purchases (as applicable), including, without limitation, those that have been effected on the same Business Day as the applicable Additional Accelerated Purchase Date with respect to which the applicable Additional Accelerated Purchase relates, have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement (such mutually agreed beginning time, the “Additional Accelerated Purchase Commencement Time”), and ending at the earliest of (X) 4:00 p.m., Eastern time, on such Additional Accelerated Purchase Date, or such other time publicly announced by the Principal Market as the official close of trading on the Principal Market on such Additional Accelerated Purchase Date, (Y) such time, from and after the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase, that total number (or volume) of shares of Common Stock traded on the Principal Market has exceeded the applicable Additional Accelerated Purchase Share Volume Maximum, and (Z) such time, from and after the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase, that the Sale Price has fallen below the applicable Additional Accelerated Purchase Minimum Price Threshold (if any) (such earliest of (i)(X), (i)(Y) and (i)(Z) above, the “Additional Accelerated Purchase Ending Time”), and (ii) the Closing Sale Price of the Common Stock on such Additional Accelerated Purchase Date (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(m) “Additional Accelerated Purchase Share Amount” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the number of Purchase Shares directed by the Company to be purchased by the Investor on an Additional Accelerated Purchase Notice, which number of Purchase Shares shall not exceed the lesser of (i) 300% of the number of Purchase Shares directed by the Company to be purchased by the Investor pursuant to the corresponding Regular Purchase referred to in clause (i)(A) of the second sentence of Section 2(b) hereof (such corresponding Regular Purchase being subject to the applicable Regular Purchase Share Limit) and (ii) an amount equal to (A) the Additional Accelerated Purchase Share Percentage multiplied by (B) the total number (or volume) of shares of Common Stock traded on the Principal Market during the period on the applicable Additional Accelerated Purchase Date beginning at the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase and ending at the Additional Accelerated Purchase Ending Time for such Additional Accelerated Purchase; provided, however, that that the parties may mutually agree to increase the Additional Accelerated Purchase Share Amount applicable to any Additional Accelerated Purchase.

(n) “Additional Accelerated Purchase Share Percentage” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, thirty percent (30%).

(o) “Additional Accelerated Purchase Share Volume Maximum” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, a number of shares of Common Stock equal to (i) the number of Purchase Shares specified by the Company in the applicable Additional Accelerated Purchase Notice as the Additional Accelerated Purchase Share Amount to be purchased by the Investor in such Additional Accelerated Purchase, divided by (ii) the Additional Accelerated Purchase Share Percentage (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(p) “Available Amount” means, initially, Seventy-Five Million Dollars (\$75,000,000) in the aggregate, which amount shall be reduced by the Purchase Amount each time the Investor purchases Purchase Shares pursuant to Section 2 hereof.

(q) “Average Price” means a price per Purchase Share (rounded to the nearest tenth of a cent) equal to the quotient obtained by dividing (i) the aggregate gross purchase price paid by the Investor for all Purchase Shares purchased pursuant to this Agreement, by (ii) the aggregate number of Purchase Shares issued pursuant to this Agreement.

(r) “Bankruptcy Law” means Title 11, U.S. Code, or any similar federal or state law for the relief of debtors.

(s) “Base Price” means a price per Purchase Share equal to the sum of (i) the Signing Market Price and (ii) \$1.29272 (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction that occurs on or after the date of this Agreement).

(t) “Base Prospectus” shall have the meaning ascribed to such term in the Registration Rights Agreement.

(u) “Business Day” means any day on which the Principal Market is open for trading, including any day on which the Principal Market is open for trading for a period of time less than the customary time.

(v) “Closing Sale Price” means, for any security as of any date, the last closing sale price for such security on the Principal Market as reported by the Principal Market.

(w) “Confidential Information” means any information disclosed by either party to the other party, either directly or indirectly, in writing, orally or by inspection of tangible objects (including, without limitation, documents, prototypes, samples, plant and equipment), which is designated as “Confidential,” “Proprietary” or some similar designation. Information communicated orally shall be considered Confidential Information if such information is confirmed in writing as being Confidential Information within ten (10) Business Days after the initial disclosure. Confidential Information may also include information disclosed to a disclosing party by third parties. Confidential Information shall not, however, include any information which (i) was publicly known and made generally available in the public domain prior to the time of disclosure by the disclosing party; (ii) becomes publicly known and made generally available after disclosure by the disclosing party to the receiving party through no action or inaction of the receiving party; (iii) is already in the possession of the receiving party without confidential restriction at the time of disclosure by the disclosing party as shown by the receiving party’s files and records immediately prior to the time of disclosure; (iv) is obtained by the receiving party from a third party without a breach of such third party’s obligations of confidentiality; (v) is independently developed by the receiving party without use of or reference to the disclosing party’s Confidential Information, as shown by documents and other competent evidence in the receiving party’s possession; or (vi) is required by law to be disclosed by the receiving party, provided that the receiving party gives the disclosing party prompt written notice of such requirement prior to such disclosure and assistance in obtaining an order protecting the information from public disclosure.

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<sup>1</sup> Increment to be calculated at time of signing per Nasdaq guidance.



(x) “Custodian” means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

(y) “DTC” means The Depository Trust Company, or any successor performing substantially the same function for the Company.

(z) “DWAC Shares” means shares of Common Stock that are (i) issued in electronic form, (ii) freely tradable and transferable and without restriction on resale and (iii) timely credited by the Company to the Investor’s or its designee’s specified Deposit/Withdrawal at Custodian (DWAC) account with DTC under its Fast Automated Securities Transfer (FAST) Program, or any similar program hereafter adopted by DTC performing substantially the same function.

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

(bb) “Floor Price” means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, \$1.00, which shall be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction and, effective upon the consummation of any such reorganization, recapitalization, non-cash dividend, stock split or other similar transaction, the Floor Price shall mean the lower of (i) the adjusted price and (ii) \$1.00.

(cc) “Initial Prospectus Supplement” shall have the meaning ascribed to such term in the Registration Rights Agreement.

(dd) “Material Adverse Effect” means any material adverse effect on (i) the enforceability of any Transaction Document, (ii) the results of operations, assets, business or financial condition of the Company and its Subsidiaries, taken as a whole, other than any material adverse effect that resulted primarily from (A) any change in the United States or foreign economies or securities or financial markets in general that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, (B) any change that generally affects the industry in which the Company and its Subsidiaries operate that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, (C) any change arising in connection with earthquakes, hostilities, acts of war, sabotage or terrorism or military actions or any escalation or material worsening of any such hostilities, acts of war, sabotage or terrorism or military actions existing as of the date hereof, (D) any action taken by the Investor, its affiliates or its or their successors and assigns with respect to the transactions contemplated by this Agreement, (E) the effect of any change in applicable laws or accounting rules that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, or (F) any change resulting from compliance with terms of this Agreement or the consummation of the transactions contemplated by this Agreement, or (iii) the Company’s ability to perform in any material respect on a timely basis its obligations under any Transaction Document to be performed as of the date of determination.

(ee) “Maturity Date” means the first day of the month immediately following the thirty-six (36) month anniversary of the Commencement Date.

(ff) “Person” means an individual or entity including but not limited to any limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(gg) “Principal Market” means The Nasdaq Capital Market (or any nationally recognized successor thereto); provided, however, that in the event the Company’s Common Stock is ever listed or traded on The Nasdaq Global Market, The Nasdaq Global Select Market, the New York Stock Exchange, the NYSE American, the NYSE Arca, or The OTCQX Best Market or The OTCQB Venture Market operated by OTC Markets Group, Inc. (or any nationally recognized successor to any of the foregoing), then the “Principal Market” shall mean such other market or exchange on which the Company’s Common Stock is then listed or traded.

(hh) “Prospectus” shall have the meaning ascribed to such term in the Registration Rights Agreement.

(ii) “Prospectus Supplement” shall have the meaning ascribed to such term in the Registration Rights Agreement.

(jj) “Purchase Amount” means, with respect to a Regular Purchase, an Accelerated Purchase or an Additional Accelerated Purchase made hereunder, as applicable, the portion of the Available Amount to be purchased by the Investor pursuant to Section 2 hereof.

(kk) “Registration Statement” shall have the meaning ascribed to such term in the Registration Rights Agreement.

(ll) “Regular Purchase Date” means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, the Business Day on which the Investor receives, after 4:00 p.m., Eastern time, but prior to 5:00 p.m., Eastern time, on such Business Day, a valid Regular Purchase Notice for such Regular Purchase in accordance with this Agreement.

(mm) “Regular Purchase Notice” means, with respect to a Regular Purchase pursuant to Section 2(a) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to buy a specified number of Purchase Shares (subject to the Regular Purchase Share Limit) at the applicable Regular Purchase Price for such Regular Purchase in accordance with this Agreement.

(nn) “Regular Purchase Price” means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, the lower of: (i) the lowest Sale Price on the applicable Regular Purchase Date for such Regular Purchase and (ii) the arithmetic average of the three (3) lowest Closing Sale Prices for the Common Stock during the ten (10) consecutive Business Days ending on the Business Day immediately preceding such Regular Purchase Date for such Regular Purchase (in each case, to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs on or after the date of this Agreement).

(oo) “Regular Purchase Share Limit” means, with respect to a Regular Purchase pursuant to Section 2(a) hereof, such number of Purchase Shares equal to the quotient obtained by dividing (i) Five Hundred Thousand Dollars (\$500,000) by (ii) the applicable Purchase Price for such Regular Purchase (which shall be proportionately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction); provided, however, that (A) if the Closing Sale Price of the Common Stock on the applicable Regular Purchase Date is not below \$30.00, the Regular Purchase Share Limit shall be increased to such number of Purchase Shares equal to the quotient obtained by dividing (I) Seven Hundred Fifty Thousand Dollars (\$750,000) by (II) the applicable Purchase Price for such Regular Purchase (which shall be proportionately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction), and (B) if the Closing Sale Price of the Common Stock on the applicable Regular Purchase Date is not below \$40.00, the Regular Purchase Share Limit shall be increased to such number of Purchase Shares equal to the quotient obtained by dividing (I) One Million Dollars (\$1,000,000) by (II) the applicable Purchase Price for such Regular Purchase (which shall be proportionately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction).

(pp) “Sale Price” means any trade price for the shares of Common Stock on the Principal Market as reported by the Principal Market.

(qq) “SEC” means the U.S. Securities and Exchange Commission.

(rr) “Securities” means, collectively, the Purchase Shares and the Commitment Shares.

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

(tt) “Signing Market Price” means \$37.74, representing the average official closing price of the Common Stock on The Nasdaq Capital Market (as reflected on Nasdaq.com) for the five (5) consecutive trading days ending on the trading day immediately preceding the date of this Agreement.

(uu) “Subsidiary” means any Person the Company wholly-owns or controls, or in which the Company, directly or indirectly, owns a majority of the voting stock or similar voting interest, in each case that would be disclosable pursuant to Item 601(b)(21) of Regulation S-K promulgated under the Securities Act.

(vv) “Transaction Documents” means, collectively, this Agreement and the schedules and exhibits hereto, the Registration Rights Agreement and the schedules and exhibits thereto, and each of the other agreements, documents, certificates and instruments entered into or furnished by the parties hereto in connection with the transactions contemplated hereby and thereby.

(ww) “Transfer Agent” means vStock Transfer, LLC, or such other Person who is then serving as the transfer agent for the Company in respect of the Common Stock.

(xx) “VWAP” means in respect of an Accelerated Purchase Date and an Additional Accelerated Purchase Date, as applicable, the volume weighted average price of the Common Stock on the Principal Market, as reported on the Principal Market or by another reputable source such as Bloomberg, L.P.

## **2. PURCHASE OF COMMON STOCK.**

Subject to the terms and conditions set forth in this Agreement, the Company has the right to sell to the Investor, and the Investor has the obligation to purchase from the Company, Purchase Shares as follows:

(a) Commencement of Regular Sales of Common Stock. Upon the satisfaction of all of the conditions set forth in Sections 7 and 8 hereof (the “Commencement” and the date of satisfaction of such conditions the “Commencement Date”), and thereafter, the Company shall have the right, but not the obligation, to direct the Investor, by its delivery to the Investor of a Regular Purchase Notice from time to time in accordance with this Agreement, to purchase up to the Regular Purchase Share Limit at the applicable Regular Purchase Price on the applicable Regular Purchase Date (each such purchase a “Regular Purchase”). The Company may deliver a Regular Purchase Notice to the Investor as often as every Business Day, so long as (i) the Closing Sale Price of the Common Stock on such Business Day is not less than the Floor Price and (ii) all Purchase Shares subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases initiated by the Company pursuant to this Agreement, as applicable, have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement.

(b) Accelerated Purchases. Subject to the terms and conditions of this Agreement, from and after the Commencement Date, in addition to purchases of Purchase Shares as described in Section 2(a) above, the Company shall also have the right, but not the obligation, to direct the Investor, by its delivery to the Investor of an Accelerated Purchase Notice from time to time in accordance with this Agreement, to purchase the applicable Accelerated Purchase Share Amount at the Accelerated Purchase Price on the Accelerated Purchase Date therefor in accordance with this Agreement (each such purchase, an “Accelerated Purchase”). The Company may deliver an Accelerated Purchase Notice to the Investor only (i) on a Regular Purchase Date on which (A) the Company also properly submitted a Regular Purchase Notice for a Regular Purchase of not less than the Regular Purchase Share Limit then in effect and (B) the Closing Sale Price of the Common Stock is not less than the Accelerated Purchase Floor Price, and (ii) if all Purchase Shares subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases initiated by the Company pursuant to this Agreement, as applicable, have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement. Within one (1) Business Day after completion of each Accelerated Purchase Date for an Accelerated Purchase, the Investor will provide to the Company a written confirmation of such Accelerated Purchase setting forth the applicable Accelerated Purchase Share Amount and Accelerated Purchase Price for such Accelerated Purchase (each, an “Accelerated Purchase Confirmation”).

(c) Additional Accelerated Purchases. Subject to the terms and conditions of this Agreement, from and after the Commencement Date, in addition to purchases of Purchase Shares as described in Section 2(a) and Section 2(b) above, the Company shall also have the right, but not the obligation, to direct the Investor, by its timely delivery to the Investor of an Additional Accelerated Purchase Notice on an Additional Accelerated Purchase Date in accordance with this Agreement, to purchase the applicable Additional Accelerated Purchase Share Amount at the applicable Additional Accelerated Purchase Price therefor in accordance with this Agreement (each such purchase, an “Additional Accelerated Purchase”). The Company may deliver multiple Additional Accelerated Purchase Notices to the Investor on an Additional Accelerated Purchase Date only (i) on a Business Day that is also the Accelerated Purchase Date for an Accelerated Purchase with respect to which each of the conditions set forth in the second sentence of Section 2(b) have been satisfied, and (ii) if all Purchase Shares subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, including, without limitation, those that have been effected on the same Business Day as the applicable Additional Accelerated Purchase Date with respect to which the applicable Additional Accelerated Purchase relates, in each case have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement. The Investor will provide to the Company a written confirmation of each Additional Accelerated Purchase on such Additional Accelerated Purchase Date setting forth the applicable Additional Accelerated Purchase Share Amount and Additional Accelerated Purchase Price for each such Additional Accelerated Purchase on such Additional Accelerated Purchase Date in the Accelerated Purchase Confirmation for the related Accelerated Purchase as provided in the last sentence of Section 2(b).

(d) Excess Share Limitations. If the Company delivers any Regular Purchase Notice for a Purchase Amount in excess of the Regular Purchase Share Limit then in effect, such Regular Purchase Notice shall be void *ab initio* to the extent of the amount by which the number of Purchase Shares set forth in such Regular Purchase Notice exceeds the number of Purchase Shares which the Company is permitted to include in such Regular Purchase Notice in accordance herewith, and the Investor shall have no obligation to purchase such excess Purchase Shares in respect of such Regular Purchase Notice; provided, however, that the Investor shall remain obligated to purchase the number of Purchase Shares which the Company is permitted to include in such Regular Purchase Notice. If the Company delivers any Accelerated Purchase Notice or Additional Accelerated Purchase Notice directing the Investor to purchase an amount of Purchase Shares that exceeds the Accelerated Purchase Share Amount or Additional Accelerated Purchase Amount, as applicable, that the Company is then permitted to include in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, respectively, such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, as applicable, shall be void *ab initio* to the extent of the amount by which the number of Purchase Shares set forth in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, as applicable, exceeds the Accelerated Purchase Share Amount or Additional Accelerated Purchase Amount, respectively, that the Company is then permitted to include in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, respectively (which shall be confirmed in an Accelerated Purchase Confirmation), and the Investor shall have no obligation to purchase such excess Purchase Shares; provided, however, that the Investor shall remain obligated to purchase the Accelerated Purchase Share Amount or Additional Accelerated Purchase Amount, as applicable, which the Company is permitted to include in such Accelerated Purchase Notice or Additional Accelerated Purchase Notice, respectively.

(e) Payment for Purchase Shares. For each Regular Purchase, the Investor shall pay to the Company an amount equal to the Purchase Amount with respect to such Regular Purchase as full payment for such Purchase Shares via wire transfer of immediately available funds on the same Business Day that the Investor receives such Purchase Shares, if such Purchase Shares are received by the Investor before 1:00 p.m., Eastern time, or, if such Purchase Shares are received by the Investor after 1:00 p.m., Eastern time, the next Business Day. For each Accelerated Purchase and each Additional Accelerated Purchase, the Investor shall pay to the Company an amount equal to the Purchase Amount with respect to such Accelerated Purchase and Additional Accelerated Purchase, respectively, as full payment for such Purchase Shares via wire transfer of immediately available funds on the second (2<sup>nd</sup>) Business Day following the date that the Investor receives such Purchase Shares. If the Company or the Transfer Agent shall fail for any reason or for no reason to electronically transfer any Purchase Shares as DWAC Shares in respect of a Regular Purchase, an Accelerated Purchase or an Additional Accelerated Purchase (as applicable) within two (2) Business Days following the receipt by the Company of the Regular Purchase Price, Accelerated Purchase Price or Additional Accelerated Purchase Price (as applicable) therefor in compliance with this Section 2(e), and if on or after such Business Day the Investor purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Investor of such Purchase Shares that the Investor anticipated receiving from the Company in respect of such Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase, then the Company shall, within two (2) Business Days after the Investor's request, either (i) pay cash to the Investor in an amount equal to the Investor's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the "Cover Price"), at which point the Company's obligation to deliver such Purchase Shares as DWAC Shares shall terminate, or (ii) promptly honor its obligation to deliver to the Investor such Purchase Shares as DWAC Shares and pay cash to the Investor in an amount equal to the excess (if any) of the Cover Price over the total Purchase Amount paid by the Investor pursuant to this Agreement for all of the Purchase Shares to be purchased by the Investor in connection with such Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase (as applicable). The Company shall not issue any fraction of a share of Common Stock upon any Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase. If the issuance would result in the issuance of a fraction of a share of Common Stock, the Company shall round such fraction of a share of Common Stock up or down to the nearest whole share. All payments made under this Agreement shall be made in lawful money of the United States of America or wire transfer of immediately available funds to such account as the Company may from time to time designate by written notice in accordance with the provisions of this Agreement. Whenever any amount expressed to be due by the terms of this Agreement is due on any day that is not a Business Day, the same shall instead be due on the next succeeding day that is a Business Day.

(f) Compliance with Rules of Principal Market.

(i) Exchange Cap. Subject to Section 2(f)(ii) below, the Company shall not issue or sell any shares of Common Stock pursuant to this Agreement, and the Investor shall not purchase or acquire any shares of Common Stock pursuant to this Agreement, to the extent that after giving effect thereto, the aggregate number of shares of Common Stock that would be issued pursuant to this Agreement and the transactions contemplated hereby would exceed 1,470,704 (representing 19.99% of the shares of Common Stock issued and outstanding immediately prior to the execution of this Agreement), which number of shares shall be (i) reduced, on a share-for-share basis, by the number of shares of Common Stock issued or issuable pursuant to any transaction or series of transactions that may be aggregated with the transactions contemplated by this Agreement under applicable rules of The Nasdaq Stock Market and (ii) appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs after the date of this Agreement (such maximum number of shares, the “Exchange Cap”), unless and until the Company elects to solicit stockholder approval of the issuance of Common Stock as contemplated by this Agreement, and the stockholders of the Company have in fact approved the issuance of Common Stock as contemplated by this Agreement in accordance with the applicable rules of The Nasdaq Stock Market. For the avoidance of doubt, the Company may, but shall be under no obligation to, request its stockholders to approve the issuance of Common Stock as contemplated by this Agreement; provided, that if stockholder approval is not obtained in accordance with this Section 2(f)(i), the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby at all times during the term of this Agreement (except as set forth in Section 2(f)(ii) below).

(ii) At-Market Transaction. Notwithstanding Section 2(f)(i) above, the Exchange Cap shall not be applicable for any purposes of this Agreement and the transactions contemplated hereby, solely to the extent that (and only for so long as) the Average Price shall equal or exceed the Base Price (it being hereby acknowledged and agreed that the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby at all other times during the term of this Agreement, unless the stockholder approval referred to in Section 2(f)(i) is obtained). The parties acknowledge and agree that the Signing Market Price used to determine the Base Price hereunder represents the lower of (i) the Nasdaq official closing price of the Common Stock on The Nasdaq Global Market (as reflected on Nasdaq.com) on the Business Day immediately preceding the date of this Agreement and (ii) the average Nasdaq official closing price of the Common Stock on The Nasdaq Global Market (as reflected on Nasdaq.com) for the five (5) consecutive trading days ending on the Business Day immediately preceding the date of this Agreement.

(iii) General. The Company shall not issue any shares of Common Stock pursuant to this Agreement if such issuance would reasonably be expected to result in (A) a violation of the Securities Act or (B) a breach of the rules and regulations of The Nasdaq Stock Market. The provisions of this Section 2(f) shall be implemented in a manner otherwise than in strict conformity with the terms hereof only if necessary to ensure compliance with the Securities Act and the rules and regulations of The Nasdaq Stock Market.

(g) Beneficial Ownership Limitation. Notwithstanding anything to the contrary contained in this Agreement, the Company shall not issue or sell, and the Investor shall not purchase or acquire, any shares of Common Stock under this Agreement which, when aggregated with all other shares of Common Stock then beneficially owned by the Investor and its affiliates (as calculated pursuant to Section 13(d) of the Exchange Act and Rule 13d-3 promulgated thereunder), would result in the beneficial ownership by the Investor of more than 4.99% of the then issued and outstanding shares of Common Stock (the "Beneficial Ownership Limitation"). Upon the written or oral request of the Investor, the Company shall promptly (but not later than 24 hours) confirm orally or in writing to the Investor the number of shares of Common Stock then outstanding. The Investor, upon written notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(g), 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 pursuant to this Agreement and the provisions of this Section 2(g) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61<sup>st</sup> day after such written 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(g) 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 Investor and the Company shall each cooperate in good faith in the determinations required hereby and the application hereof. The Investor's written certification to the Company of the applicability of the Beneficial Ownership Limitation, and the resulting effect thereof hereunder at any time, shall be conclusive with respect to the applicability thereof and such result absent manifest error.

### 3. INVESTOR'S REPRESENTATIONS AND WARRANTIES.

The Investor represents and warrants to the Company that as of the date hereof and as of the Commencement Date:

(a) Organization, Authority. Investor is an entity duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization, with the requisite power and authority to enter into and to consummate the transactions contemplated by this Agreement and otherwise to carry out its obligations hereunder and thereunder

(b) Accredited Investor Status. The Investor is an "accredited investor" as that term is defined in Rule 501(a)(3) of Regulation D promulgated under the Securities Act.

(c) Information. The Investor understands that its investment in the Securities involves a high degree of risk. The Investor (i) is able to bear the economic risk of an investment in the Securities including a total loss thereof, (ii) has such knowledge and experience in financial and business matters that it is capable of evaluating the merits and risks of the proposed investment in the Securities and (iii) has had an opportunity to ask questions of and receive answers from the officers of the Company concerning the financial condition and business of the Company and other matters related to an investment in the Securities. Neither such inquiries nor any other due diligence investigations conducted by the Investor or its representatives shall modify, amend or affect the Investor's right to rely on the Company's representations and warranties contained in Section 4 below. The Investor has sought such accounting, legal and tax advice as it has considered necessary to make an informed investment decision with respect to its acquisition of the Securities.

(e) No Governmental Review. The Investor understands that no U.S. federal or state agency or any other government or governmental agency has passed on or made any recommendation or endorsement of the Securities or the fairness or suitability of an investment in the Securities nor have such authorities passed upon or endorsed the merits of the offering of the Securities.

(f) Validity; Enforcement. This Agreement has been duly and validly authorized, executed and delivered on behalf of the Investor and is a valid and binding agreement of the Investor enforceable against the Investor in accordance with its terms, subject as to enforceability to general principles of equity and to applicable bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies.

(g) Residency. The Investor is a resident of the State of Illinois.

(h) No Short Selling. The Investor represents and warrants to the Company that at no time prior to the date of this Agreement has any of the Investor, its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any (i) "short sale" (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the Common Stock or (ii) hedging transaction, which establishes a net short position with respect to the Common Stock.

#### **4. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.**

The Company represents and warrants to the Investor that, except as set forth in the disclosure schedules attached hereto, which exceptions shall be deemed to be a part of the representations and warranties made hereunder, as of the date hereof and as of the Commencement Date:

(a) Organization and Qualification. The Company and each of its Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite corporate power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any of its Subsidiaries is in violation or default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and its Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not have or reasonably be expected to result in a Material Adverse Effect and no proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification. The Company has no Subsidiaries except as set forth on Exhibit 21.01 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2024.

(b) Authorization; Enforcement; Validity. (i) The Company has the requisite corporate power and authority to enter into and perform its obligations under this Agreement, the Registration Rights Agreement and each of the other Transaction Documents, and to issue the Securities in accordance with the terms hereof and thereof, (ii) the execution and delivery of the Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby, including without limitation, the issuance of the Commitment Shares (as defined below in Section 5(e)) and the reservation for issuance and the issuance of the Purchase Shares issuable under this Agreement, have been duly authorized by the Company's Board of Directors and no further consent or authorization is required by the Company, its Board of Directors or its stockholders, (iii) this Agreement has been, and each other Transaction Document shall be on the Commencement Date, duly executed and delivered by the Company and (iv) each of this Agreement and the Registration Rights Agreement constitutes, and each other Transaction Document upon its execution on behalf of the Company, shall constitute, the valid and binding obligations of the Company enforceable against the Company in accordance with their terms, except as such enforceability may be limited by general principles of equity or applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally, the enforcement of creditors' rights and remedies. The Board of Directors of the Company has approved resolutions substantially in the form set forth in **Exhibit B** attached hereto (the "Signing Resolutions") to authorize this Agreement, the Registration Rights Agreement and the transactions contemplated hereby and thereby. The Signing Resolutions are valid, in full force and effect and have not been modified or supplemented in any respect. The Company has delivered to the Investor a true copy of the minutes of a meeting of the Company's Board of Directors at which the Signing Resolutions were unanimously adopted by the Board of Directors. Except as set forth in this Agreement, no other approvals or consents of the Company's Board of Directors, any authorized committee thereof, and/or stockholders is necessary under applicable laws and the Company's Articles of Incorporation and/or Bylaws to authorize the execution and delivery of this Agreement, the Registration Rights Agreement or any of the transactions contemplated hereby or thereby, including, but not limited to, the issuance of the Securities.



(c) Capitalization. As of the date hereof, the authorized capital stock of the Company is set forth in the Registration Statement. Except as disclosed in the SEC Documents (as defined below), (i) no shares of the Company's capital stock are subject to preemptive rights or any other similar rights or any liens or encumbrances suffered or permitted by the Company, (ii) there are no outstanding debt securities, (iii) there are no outstanding options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or any of its Subsidiaries, or contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to issue additional shares of capital stock of the Company or any of its Subsidiaries or options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or any of its Subsidiaries, (iv) there are no agreements or arrangements under which the Company or any of its Subsidiaries is obligated to register the sale of any of their securities under the Securities Act (except this Agreement and the Registration Rights Agreement), (v) there are no outstanding securities or instruments of the Company or any of its Subsidiaries which contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to redeem a security of the Company or any of its Subsidiaries, (vi) there are no securities or instruments containing anti-dilution or similar provisions that will be triggered by the issuance of the Securities as described in this Agreement and (vii) the Company does not have any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement. The Company has furnished to the Investor true and correct copies of the Company's Articles of Incorporation, as amended and as in effect on the date hereof (the "Articles of Incorporation"), and the Company's Third Amended and Restated Bylaws, as amended and as in effect on the date hereof (the "Bylaws"), and summaries of the terms of all securities convertible into or exercisable for Common Stock, if any, and copies of any documents containing the material rights of the holders thereof in respect thereto.

(d) Issuance of Securities. Upon issuance and payment therefor in accordance with the terms and conditions of this Agreement, the Purchase Shares shall be validly issued, fully paid and nonassessable and free from all taxes, liens, charges, restrictions, rights of first refusal and preemptive rights with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. Upon issuance in accordance with the terms and conditions of this Agreement, the Commitment Shares shall be validly issued, fully paid and nonassessable and free from all taxes, liens, charges, restrictions, rights of first refusal and preemptive rights with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. 1,500,000 shares of Common Stock have been duly authorized and reserved for issuance upon purchase under this Agreement as Purchase Shares.

(e) No Conflicts. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby and thereby (including, without limitation, the issuance of the Commitment Shares and the reservation for issuance and issuance of the Purchase Shares) will not (i) result in a violation of the Articles of Incorporation, any Certificate of Designations, Preferences and Rights of any outstanding series of preferred stock of the Company or the Bylaws or (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which the Company or any of its Subsidiaries is a party, or result in a violation of any law, rule, regulation, order, judgment or decree (including federal and state securities laws and regulations and the rules and regulations of the Principal Market applicable to the Company or any of its Subsidiaries) or by which any property or asset of the Company or any of its Subsidiaries is bound or affected, except in the case of conflicts, defaults, terminations, amendments, accelerations, cancellations and violations under clause (ii), which would not reasonably be expected to result in a Material Adverse Effect. Neither the Company nor its Subsidiaries is in violation of any term of or in default under its Articles of Incorporation, any Certificate of Designation, Preferences and Rights of any outstanding series of preferred stock of the Company or Bylaws or their organizational charter or bylaws, respectively. Neither the Company nor any of its Subsidiaries is in violation of any term of or is in default under any material contract, agreement, mortgage, indebtedness, indenture, instrument, judgment, decree or order or any statute, rule or regulation applicable to the Company or its Subsidiaries, except for possible conflicts, defaults, terminations or amendments that would not reasonably be expected to have a Material Adverse Effect. The business of the Company and its Subsidiaries is not being conducted, and shall not be conducted, in violation of any law, ordinance, regulation of any governmental entity, except for possible violations, the sanctions for which either individually or in the aggregate would not reasonably be expected to have a Material Adverse Effect. Except as specifically contemplated by this Agreement and as required under the Securities Act or applicable state securities laws and the rules and regulations of the Principal Market, the Company is not required to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency or any regulatory or self-regulatory agency in order for it to execute, deliver or perform any of its obligations under or contemplated by the Transaction Documents in accordance with the terms hereof or thereof. Except as set forth elsewhere in this Agreement, all consents, authorizations, orders, filings and registrations which the Company is required to obtain pursuant to the preceding sentence shall be obtained or effected on or prior to the Commencement Date.

(f) SEC Documents; Financial Statements. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company with the SEC under the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, and under the Securities Act, in each case during the 12-month period immediately preceding the date of this Agreement (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, being collectively referred to herein as the “SEC Documents”), on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Documents prior to the expiration of any such extension. As of their respective dates, the SEC Documents complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable. None of the SEC Documents, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The financial statements of the Company included in the SEC Documents comply in all material respects with applicable accounting requirements and the rules and regulations of the SEC with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved (“GAAP”), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments. Except as set forth in the SEC Documents, the Company has received no notices or correspondence from the SEC for the one year preceding the date hereof. The SEC has not commenced any enforcement proceedings against the Company or any of its Subsidiaries.

(g) Absence of Certain Changes. Except as disclosed in the SEC Documents, since December 31, 2024, (i) there has been no material adverse change in the business, properties, operations, financial condition or results of operations of the Company or its Subsidiaries, (ii) the Company and its Subsidiaries, considered as one entity, have not incurred any material liability or obligation, indirect, direct or contingent, including without limitation any losses or interference with its business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its Subsidiaries, considered as one entity, or has entered into any transactions not in the ordinary course of business; (iii) there has not been any material disruption, material delay or other material adverse change in (A) the development of any of the Company's product candidates, (B) the anticipated timeline of pre-clinical or clinical trials to support the development of any of the Company's product candidates, or (C) the recruitment of candidates for clinical trials to support the development of any of the Company's product candidates; and (iv) there has not been any material decrease in the capital stock or any material increase in any short-term or long-term indebtedness of the Company or its Subsidiaries and there has been no dividend or distribution of any kind declared, paid or made by the Company or, except for dividends paid to the Company or other Subsidiaries, by any of the Company's Subsidiaries on any class of capital stock, or any repurchase or redemption by the Company or any of its Subsidiaries of any class of capital stock. The Company has not taken any steps, and does not currently expect to take any steps, to seek protection pursuant to any Bankruptcy Law nor does the Company or any of its Subsidiaries have any knowledge or reason to believe that its creditors intend to initiate involuntary bankruptcy or insolvency proceedings. The Company is financially solvent and is generally able to pay its debts as they become due.

(h) Absence of Litigation. There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the Company or any of its Subsidiaries, threatened against or affecting the Company, the Common Stock or any of the Company's or its Subsidiaries' officers or directors in their capacities as such, which could reasonably be expected to have a Material Adverse Effect.

(i) Acknowledgment Regarding Investor's Status. The Company acknowledges and agrees that the Investor is acting solely in the capacity of arm's length purchaser with respect to the Transaction Documents and the transactions contemplated hereby and thereby. The Company further acknowledges that the Investor is not acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated hereby and thereby and any advice given by the Investor or any of its representatives or agents in connection with the Transaction Documents and the transactions contemplated hereby and thereby is merely incidental to the Investor's purchase of the Securities. The Company further represents to the Investor that the Company's decision to enter into the Transaction Documents has been based solely on the independent evaluation by the Company and its representatives and advisors.

(j) No Integrated Offering. Neither the Company, nor any of its affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated with prior offerings by the Company in a manner that would require stockholder approval pursuant to the rules of the Principal Market on which any of the securities of the Company are listed or designated. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Principal Market.

(k) Intellectual Property Rights. The Company and its Subsidiaries own or possess adequate rights or licenses to use all material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, governmental authorizations, trade secrets and rights necessary to conduct their respective businesses as now conducted. None of the Company's material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, government authorizations, trade secrets or other intellectual property rights have expired or terminated, or, by the terms and conditions thereof, could expire or terminate within two years from the date of this Agreement. The Company and its Subsidiaries do not have any knowledge of any infringement by the Company or its Subsidiaries of any material trademark, trade name rights, patents, patent rights, copyrights, inventions, licenses, service names, service marks, service mark registrations, trade secret or other similar rights of others, or of any such development of similar or identical trade secrets or technical information by others, and there is no claim, action or proceeding being made or brought against, or to the Company's knowledge, being threatened against, the Company or its Subsidiaries regarding trademark, trade name, patents, patent rights, invention, copyright, license, service names, service marks, service mark registrations, trade secret or other infringement, which could reasonably be expected to have a Material Adverse Effect.

(l) Environmental Laws. The Company and its Subsidiaries (i) are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("Environmental Laws"), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where, in each of the three foregoing clauses, the failure to so comply could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(m) Title. The Company and its Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and its Subsidiaries, in each case free and clear of all liens, encumbrances and defects ("Liens") and, except for Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and its Subsidiaries and Liens for the payment of federal, state or other taxes, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and its Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and its Subsidiaries are in compliance with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property and buildings by the Company and its Subsidiaries.

(n) Insurance. The Company and each of its Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as management of the Company believes to be prudent and customary in the businesses in which the Company and its Subsidiaries are engaged. Neither the Company nor any such Subsidiary has been refused any insurance coverage sought or applied for and neither the Company nor any such Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not materially and adversely affect the condition, financial or otherwise, or the earnings, business or operations of the Company and its Subsidiaries, taken as a whole.

(o) Regulatory Permits. The Company possesses all licenses, certificates, registrations, authorizations and permits required by the U.S. Food and Drug Administration (“FDA”) and other governmental or regulatory authorities performing functions similar to those performed by the FDA and have made all declarations and filings with, the appropriate local, state, federal or foreign governmental or regulatory agencies or bodies (including, without limitation, those administered by the FDA or by any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA) that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the Registration Statement and the Prospectus (collectively, the “Material Permits”) except where any failures to possess or make the same would not, singularly or in the aggregate, have a Material Adverse Effect. The Company is in compliance with all such Material Permits, including with all conditions and limitations on the commercial rights granted by such Material Permits; all such Material Permits are valid and in full force and effect, except where the validity or failure to be in full force and effect would not, singularly or in the aggregate, have a Material Adverse Effect. The Company has not received notification of any revocation, modification, suspension, termination or invalidation (or proceedings related thereto) of any such Material Permit and the Company has no reason to believe that any such Material Permit will not be renewed.

(p) Tax Status. The Company and each of its Subsidiaries has made or filed all federal and state income and all other material tax returns, reports and declarations required by any jurisdiction to which it is subject (unless and only to the extent that the Company and each of its Subsidiaries has set aside on its books provisions reasonably adequate for the payment of all unpaid and unreported taxes) and has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations, except those being contested in good faith and has set aside on its books provision reasonably adequate for the payment of all taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company know of no basis for any such claim.

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

(r) Application of Takeover Protections. The Company and its board of directors have taken or will take prior to the Commencement Date all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Articles of Incorporation or the laws of the state of its incorporation which is or could become applicable to the Investor as a result of the transactions contemplated by this Agreement, including, without limitation, the Company’s issuance of the Securities and the Investor’s ownership of the Securities.

(s) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents that will be timely publicly disclosed by the Company, the Company confirms that neither it nor any other Person acting on its behalf has provided the Investor or its agents or counsel with any information that it believes constitutes or might constitute material, non-public information which is not otherwise disclosed in the Registration Statement or the SEC Documents. The Company understands and confirms that the Investor will rely on the foregoing representation in effecting purchases and sales of securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Investor regarding the Company, its business and the transactions contemplated hereby, including the disclosure schedules to this Agreement, is true and correct in all material respects and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. The press releases disseminated by the Company during the twelve months preceding the date of this Agreement taken as a whole do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made and when made, not misleading. The Company acknowledges and agrees that the Investor neither makes nor has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3 hereof.

(t) Foreign Corrupt Practices. Neither the Company, nor to the knowledge of the Company, any agent or other Person acting on behalf of the Company, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company (or made by any Person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended.

(u) Registration Statement. The Company has prepared and filed the Registration Statement with the SEC in accordance with the Securities Act. The Registration Statement was declared effective by order of the SEC on September 30, 2024. The Registration Statement is effective pursuant to the Securities Act and available for the issuance of the Securities thereunder, and the Company has not received any written notice that the SEC has issued or intends to issue a stop order or other similar order with respect to the Registration Statement or the Prospectus or that the SEC otherwise has (i) suspended or withdrawn the effectiveness of the Registration Statement or (ii) issued any order preventing or suspending the use of the Prospectus or any Prospectus Supplement, in either case, either temporarily or permanently or intends or has threatened in writing to do so. The “Plan of Distribution” section of the Prospectus permits the issuance of the Securities under the terms of this Agreement. At the time the Registration Statement and any amendments thereto became effective, at the date of this Agreement and at each deemed effective date thereof pursuant to Rule 430B(f)(2) of the Securities Act, the Registration Statement and any amendments thereto complied and will comply in all material respects with the requirements of the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Base Prospectus and any Prospectus Supplement thereto, at the time such Base Prospectus or such Prospectus Supplement thereto was issued and on the Commencement Date, complied and will comply in all material respects with the requirements of the Securities Act and did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; provided that this representation and warranty does not apply to statements in or omissions from any Prospectus Supplement made in reliance upon and in conformity with information relating to the Investor furnished to the Company in writing by or on behalf of the Investor expressly for use therein. The Company meets all of the requirements for the use of a registration statement on Form S-3 pursuant to the Securities Act for the offering and sale of the Securities contemplated by this Agreement in reliance on General Instruction I.B.1. of Form S-3, and the SEC has not notified the Company of any objection to the use of the form of the Registration Statement pursuant to Rule 401(g)(1) of the Securities Act. The Company hereby confirms that the issuance of the Securities to the Investor pursuant to this Agreement would not result in non-compliance with the Securities Act or any of the General Instructions to Form S-3. The Registration Statement, as of its effective date, meets the requirements set forth in Rule 415(a)(1)(x) pursuant to the Securities Act. At the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the Securities Act) relating to any of the Securities, the Company was not, and as of the date of this Agreement the Company is not, an Ineligible Issuer (as defined in Rule 405 of the Securities Act). The Company has not distributed any offering material in connection with the offering and sale of any of the Securities, and, until the Investor does not hold any of the Securities, shall not distribute any offering material in connection with the offering and sale of any of the Securities, to or by the Investor, in each case, other than the Registration Statement or any amendment thereto, the Prospectus or any Prospectus Supplement required pursuant to applicable law or the Transaction Documents. The Company has not made and shall not make an offer relating to the Securities that would constitute a “free writing prospectus” as defined in Rule 405 under the Securities Act.

(v) DTC Eligibility. The Company, through the Transfer Agent, currently participates in the DTC Fast Automated Securities Transfer (FAST) Program and the Common Stock can be transferred electronically to third parties via the DTC Fast Automated Securities Transfer (FAST) Program.

(w) Sarbanes-Oxley. The Company is in compliance in all material respects with all provisions of the Sarbanes-Oxley Act of 2002, as amended, which are applicable to it as of the date hereof.

(x) Certain Fees. No brokerage or finder's fees or commissions are or will be payable by the Company to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. The Investor shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section 4(x) that may be due in connection with the transactions contemplated by the Transaction Documents.

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

(z) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock pursuant to the Exchange Act nor has the Company received any notification that the SEC is currently contemplating terminating such registration. Except as disclosed in the SEC Documents, the Company has not, in the twelve (12) months preceding the date hereof, received any notice from any Person to the effect that the Company is not in compliance with the listing or maintenance requirements of the Principal Market. The Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Principal Market has not commenced any delisting proceedings against the Company.

(aa) Accountants. The Company's accountants are set forth in the SEC Documents and, to the knowledge of the Company, such accountants are an independent registered public accounting firm as required by the Securities Act.

(bb) No Market Manipulation. The Company has not, and to its knowledge no Person acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Securities, (ii) sold, bid for, purchased, or, paid any compensation for soliciting purchases of, any of the Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company.

(cc) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries or affiliates is subject to the Bank Holding Company Act of 1956, as amended (the “BHCA”) and to regulation by the Board of Governors of the Federal Reserve System (the “Federal Reserve”). Neither the Company nor any of its Subsidiaries or affiliates owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries or affiliates exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

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

(ee) Information Technology. The Company’s and the Subsidiaries’ information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, “IT Systems”) operate and perform in all material respects as required in connection with the operation of the business of the Company and the Subsidiaries as currently conducted. The Company, and the Subsidiaries maintain commercially reasonable controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and all personal, personally identifiable, sensitive, confidential or regulated data (“Personal Data”) processed and stored thereon, and to the knowledge of the Company, there have been no breaches, incidents, violations, outages, compromises or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and the Subsidiaries are presently in compliance in all material respects with all applicable laws or statutes and all applicable judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification, except for any such noncompliance that would not have a Material Adverse Effect.

(ff) Regulatory. Except as described in the Registration Statement and the Prospectus, as applicable, the Company and its Subsidiaries (i) are and at all times have been in material compliance with all statutes, rules and regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, advertising, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by the Company including, without limitation the Federal Food, Drug and Cosmetic Act (21 U.S.C. §301 et seq.), the federal Anti-Kickback Statute (42 U.S.C. §1320a-7b(b)), the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, and the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Affordability Reconciliation Act of 2010, the regulations promulgated pursuant to such laws, and any successor government programs and comparable state laws, regulations relating to Good Clinical Practices and Good Laboratory Practices and all other local, state, federal, national, supranational and foreign laws, manual provisions, policies and administrative guidance relating to the regulation of the Company (collectively, the “Applicable Laws”); (ii) have not received any notice from any court or arbitrator or governmental or regulatory authority or third party alleging or asserting noncompliance with any Applicable Laws or any licenses, exemptions, certificates, approvals, clearances, authorizations, permits, registrations and supplements or amendments thereto required by any such Applicable Laws (“Authorizations”); (iii) possess all material Authorizations and such Authorizations are valid and in full force and effect and are not in violation of any term of any such Authorizations; (iv) have not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations nor is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened; (v) have not received any written notice that any court or arbitrator or governmental or regulatory authority has taken, is taking or intends to take, action to limit, suspend, materially modify or revoke any Authorizations nor is any such limitation, suspension, modification or revocation threatened; (vi) have filed, obtained, maintained or submitted all material reports, documents, forms, 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 accurate on the date filed (or were corrected or supplemented by a subsequent submission); and (vii) are not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority.



(gg) Benefit Plans; Labor Matters. Each benefit and compensation plan, agreement, policy and arrangement that is maintained, administered or contributed to by the Company for current or former employees or directors of, or independent contractors with respect to, the Company has been maintained in material compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, and the Company has complied in all material respects with all applicable statutes, orders, rules and regulations in regard to such plans, agreements, policies and arrangements. Each stock option granted under any equity incentive plan of the Company (each, a “Stock Plan”) was granted with a per share exercise price no less than the market price per common share on the grant date of such option in accordance with the rules of the Principal Market, and no such grant involved any “back-dating,” “forward-dating” or similar practice with respect to the effective date of such grant; each such option (i) was granted in compliance in all material respects with Applicable Laws and with the applicable Stock Plan(s), (ii) was duly approved by the Board of Directors, and (iii) has been properly accounted for in the Company’s financial statements and disclosed, to the extent required, in the Company’s filings or submissions with the SEC, and the Principal Market. No labor problem or dispute with the employees of the Company exists or has been threatened in writing, and the Company is not aware of any existing or threatened labor disturbance by the employees of any of its principal suppliers or contractors, that would reasonably be expected to have a Material Adverse Effect.

(hh) Material Agreements. The agreements and documents described in the Registration Statement or Prospectus conform in all material respects to the descriptions thereof contained or incorporated by reference therein conformed in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable at the time filed, and were filed on a timely basis with the Commission and none of such documents contained an untrue statement of a material fact or omitted to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; any further documents so filed and there are no agreements or other documents required by the Securities Act and the rules and regulations thereunder to be described in 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 or Prospectus, that have not been so described or filed or incorporated by reference.

(ii) Compliance with Healthcare Laws. The tests, studies, and trials conducted by or on behalf of or sponsored by the Company or any of its subsidiaries were and, if still pending, are being conducted in all material respects in accordance with all applicable Health Care Laws (as defined below) and standard medical and scientific research protocols, procedures, and controls; none of the Company or any of its subsidiaries has received any written notice, correspondence, or other written communication from any regulatory agency or any institutional review board or comparable body requiring or threatening the termination, suspension, or material modification of any tests, studies, or trials, or commercial distribution, and to the knowledge of the Company and its subsidiaries, there are no reasonable grounds for the same. Each of the Company and its Subsidiaries has obtained (or caused to be obtained) the informed consent of each human subject who participated in a test, study, or trial. None of the tests, studies, or trials involved any investigator who has been disqualified as a clinical investigator. The Company and its directors, officers, employees, and agents are, and at all times prior hereto have been, in material compliance with, all health care laws and regulations applicable to the Company or any of its product candidates or activities, including development and testing of pharmaceutical products, kickbacks, recordkeeping, documentation requirements, the hiring of employees (to the extent governed by Health Care Laws), quality, safety, privacy, security, licensure, accreditation or any other aspect of developing and testing health care or pharmaceutical products (collectively, "Health Care Laws"). The Company has not received any notification, correspondence or any other written or oral communication, including notification of any pending or threatened claim, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority, including, without limitation, the United States Food and Drug Administration, the Drug Enforcement Agency, the Centers for Medicare & Medicaid Services, and the U.S. Department of Health and Human Services Office of Inspector General, of potential or actual non-compliance by, or liability of, the Company under any Health Care Laws. To the Company's knowledge, there are no facts or circumstances that would reasonably be expected to give risk to liability of the Company under any Health Care Laws, except that would not individually or in the aggregate have a Material Adverse Effect.

(jj) Shell Company Status. The Company is not currently, and since October 27, 2011, has not been, an issuer identified in Rule 144(i)(1) under the Securities Act and has filed with the SEC current "Form 10 information" (as defined in Rule 144(i)(3) under the Securities Act) at least 12 calendar months prior to the date of this Agreement reflecting its status as an entity that is no longer an issuer identified in Rule 144(i)(1) under the Securities Act.

## **5. COVENANTS.**

(a) Filing of Current Report and Initial Prospectus Supplement. The Company agrees that it shall, on the date hereof, file with the SEC a current report on Form 8-K relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents in the form agreed upon by the Investor prior to the date hereof (the "Current Report"). The Company further agrees that it shall, on the date hereof, file with the SEC the Initial Prospectus Supplement pursuant to Rule 424(b) under the Securities Act, in the form agreed upon by the Investor prior to such filing, specifically relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents, containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430B under the Securities Act, and disclosing all information relating to the transactions contemplated hereby required to be disclosed in the Registration Statement and the Prospectus as of the date of the Initial Prospectus Supplement, including, without limitation, information required to be disclosed in the section captioned "Plan of Distribution" in the Prospectus, pursuant to and in accordance with the terms of the Registration Rights Agreement.

(b) Blue Sky. The Company shall take all such action, if any, as is reasonably necessary in order to obtain an exemption for or to register or qualify (i) the issuance of the Commitment Shares and the issuance and sale of the Purchase Shares to the Investor under this Agreement and (ii) any subsequent resale of the Securities by the Investor, in each case, under applicable securities or "Blue Sky" laws of the states of the United States in such states as is reasonably requested by the Investor from time to time, and shall provide evidence of any such action so taken to the Investor.

(c) Listing/DTC. The Company shall promptly secure the listing of all of the Securities to be issued to the Investor under this Agreement on the Principal Market (subject to official notice of issuance) and upon each other national securities exchange or automated quotation system, if any, upon which the Common Stock is then listed, and shall use commercially reasonable efforts to maintain, so long as any shares of Common Stock shall be so listed, such listing of all such Securities. The Company shall use commercially reasonable efforts to maintain the listing of the Common Stock, including the Securities, on the Principal Market and shall comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules and regulations of the Principal Market. Neither the Company nor any of its Subsidiaries shall take any action that would reasonably be expected to result in the delisting or suspension of the Common Stock, including the Securities, on the Principal Market. The Company shall promptly, and in no event later than the following Business Day, provide to the Investor copies of any notices it receives from the Principal Market regarding the continued eligibility of the Common Stock for listing on the Principal Market; provided, however, that the Company shall not be required to provide the Investor copies of any such notice that the Company reasonably believes constitutes material non-public information and the Company would not be required to publicly disclose such notice in any report or statement filed with the SEC under the Exchange Act (including on Form 8-K) or the Securities Act. The Company shall pay all fees and expenses in connection with satisfying its obligations under this Section 5(c). The Company shall take all action necessary to ensure that its Common Stock, including the Securities, can be transferred electronically as DWAC Shares.

(d) Prohibition of Short Sales and Hedging Transactions. The Investor agrees that beginning on the date of this Agreement and ending on the date of termination of this Agreement as provided in Section 11, the Investor and its agents, representatives and affiliates shall not in any manner whatsoever enter into or effect, directly or indirectly, any (i) "short sale" (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the Common Stock or (ii) hedging transaction, which establishes a net short position with respect to the Common Stock.

(e) Issuance of Commitment Shares. In consideration for the Investor's execution and delivery of this Agreement, the Company shall cause to be issued to the Investor a total of 48,708 shares of Common Stock (the "Commitment Shares") on the Business Day immediately following the date of this Agreement and shall deliver to the Transfer Agent immediately following the execution of this Agreement the Irrevocable Transfer Agent Instructions with respect to the issuance of such Commitment Shares pursuant hereto. For the avoidance of doubt, all of the Commitment Shares shall be fully earned as of the date of this Agreement, whether or not the Commencement shall occur or any Purchase Shares are purchased by the Investor under this Agreement and irrespective of any subsequent termination of this Agreement.

(f) Due Diligence; Non-Public Information. The Investor shall have the right, from time to time as the Investor may reasonably deem appropriate, and upon providing reasonable advance notice to the Company, to perform reasonable due diligence on the Company during normal business hours. The Company and its officers and employees shall provide information and reasonably cooperate with the Investor in connection with any reasonable request by the Investor related to the Investor's due diligence of the Company. Each party hereto agrees not to disclose any Confidential Information of the other party to any third party and shall not use the Confidential Information for any purpose other than in connection with, or in furtherance of, the transactions contemplated hereby. Each party hereto acknowledges that the Confidential Information shall remain the property of the disclosing party and agrees that it shall take all reasonable measures to protect the secrecy of any Confidential Information disclosed by the other party. The Company confirms that neither it nor any other Person acting on its behalf shall provide the Investor or its agents or counsel with any information that constitutes or might constitute material, non-public information, unless a simultaneous public announcement thereof is made by the Company in the manner contemplated by Regulation FD. In the event of a breach of the foregoing covenant by the Company or any Person acting on its behalf (as determined in the reasonable good faith judgment of the Investor), in addition to any other remedy provided herein or in the other Transaction Documents, if the Investor is holding any Securities at the time of the disclosure of material, non-public information, the Investor shall have the right to make a public disclosure, in the form of a press release, public advertisement or otherwise, of such material, non-public information without the prior approval by the Company; provided the Investor shall have first provided notice to the Company that it believes it has received information that constitutes material, non-public information, the Company shall have at least 48 hours to publicly disclose such material, non-public information prior to any such disclosure by the Investor or demonstrate to the Investor in writing why such information does not constitute material, non-public information, and (assuming the Investor and Investor's counsel disagree with the Company's determination) the Company shall have failed to publicly disclose such material, non-public information within such time period. The Investor shall not have any liability to the Company, any of its Subsidiaries, or any of their respective directors, officers, employees, stockholders or agents, for any such disclosure. The Company understands and confirms that the Investor shall be relying on the foregoing covenants in effecting transactions in securities of the Company.

(g) Purchase Records. The Investor and the Company shall each maintain records showing the remaining Available Amount at any given time and the dates and Purchase Amounts for each Regular Purchase, Accelerated Purchase and Additional Accelerated Purchase or shall use such other method, reasonably satisfactory to the Investor and the Company.

(h) Taxes. The Company shall pay any and all transfer, stamp or similar taxes that may be payable with respect to the issuance and delivery of any shares of Common Stock to the Investor made under this Agreement.

(i) Use of Proceeds. The Company will use the net proceeds from the offering as described in the Prospectus.

(j) Other Transactions. The Company shall not enter into, announce or recommend to its stockholders any agreement, plan, arrangement or transaction in or of which the terms thereof would restrict, materially delay, conflict with or impair the ability or right of the Company to perform its obligations under the Transaction Documents, including, without limitation, the obligation of the Company to deliver the Securities to the Investor in accordance with the terms of the Transaction Documents.

(k) No Aggregation. From and after the date of this Agreement, neither the Company, nor any of its affiliates will, and the Company shall use its commercially reasonable efforts to ensure that no Person acting on their behalf will, directly or indirectly, make any offers or sales of any security or solicit any offers to buy any security, under circumstances that would reasonably be expected to cause this offering of the Securities by the Company to the Investor to be aggregated with other offerings by the Company in a manner that would require stockholder approval pursuant to the rules of the Principal Market on which any of the securities of the Company are listed or designated unless stockholder approval is obtained before the closing of such subsequent transaction in accordance with the rules of such Principal Market.

(l) Limitation on Substantially Similar Transactions. From and after the date of this Agreement until the later of (i) the 36-month anniversary of the date of this Agreement and (ii) the 36-month anniversary of the Commencement Date (if the Commencement has occurred), irrespective of any earlier termination of this Agreement, the Company and its Subsidiaries shall be prohibited from effecting or entering into an agreement to effect any issuance by the Company or any of its Subsidiaries of Common Stock involving a Substantially Similar Transaction, other than with the Investor. “Substantially Similar Transaction” means an “equity line of credit” or substantially similar transaction whereby an investor is irrevocably bound to purchase securities over a period of time from the Company at a price based on the market price of the Common Stock at the time of each such purchase; provided, however, that this Section 5(l) shall not be deemed to prohibit the issuance and sale of Common Stock pursuant to an “at-the-market offering” by the Company exclusively through one or more registered broker-dealers acting as sales agent(s) of the Company pursuant to a written agreement between the Company and such registered broker-dealer(s).

## **6. TRANSFER AGENT INSTRUCTIONS.**

On the date of this Agreement, the Company shall issue to the Transfer Agent (and any subsequent transfer agent) irrevocable instructions, in the form substantially similar to those used by the Investor in substantially similar transactions, to issue the Purchase Shares and the Commitment Shares in accordance with the terms of this Agreement (the “Irrevocable Transfer Agent Instructions”). All Securities to be issued to or for the benefit of the Investor pursuant to this Agreement shall be issued as DWAC Shares. The Company represents and warrants to the Investor that no instruction other than the Irrevocable Transfer Agent Instructions referred to in this Section 6 will be given by the Company to the Transfer Agent with respect to the Securities, and the Securities shall otherwise be freely transferable on the books and records of the Company. If the Investor effects a sale, assignment or transfer of the Purchase Shares, the Company shall permit the transfer and shall promptly instruct the Transfer Agent (and any subsequent transfer agent) to issue DWAC Shares in such name and in such denominations as specified by the Investor to effect such sale, transfer or assignment. The Company shall take all actions to carry out the intent and accomplish the purposes of this Section 6, including, without limitation, delivering or causing to be delivered all such legal opinions, consents, certificates, resolutions and instructions to the Transfer Agent, and any successor transfer agent of the Company, as may be requested from time to time by the Investor or necessary or desirable to carry out the intent and accomplish the purposes of this Section 6, and all fees and costs associated therewith shall be borne by the Company.

## **7. CONDITIONS TO THE COMPANY’S RIGHT TO COMMENCE SALES OF SHARES OF COMMON STOCK.**

The right of the Company hereunder to commence sales of the Purchase Shares on the Commencement Date is subject to the satisfaction or, where legally permissible, the waiver of each of the following conditions:

- (a) The Investor shall have executed each of the Transaction Documents and delivered the same to the Company;
- (b) No stop order with respect to the Registration Statement shall be pending or threatened by the SEC; and
- (c) The representations and warranties of the Investor shall be true and correct in all material respects as of the date hereof and as of the Commencement Date as though made at that time.

## 8. CONDITIONS TO THE INVESTOR'S OBLIGATION TO PURCHASE SHARES OF COMMON STOCK.

The obligation of the Investor to buy Purchase Shares under this Agreement is subject to the satisfaction or, where legally permissible, the waiver of each of the following conditions on or prior to the Commencement Date and, once such conditions have been initially satisfied, there shall not be any ongoing obligation to satisfy such conditions after the Commencement has occurred:

(a) The Company shall have executed each of the Transaction Documents and delivered the same to the Investor;

(b) The Common Stock shall be listed or quoted on the Principal Market, trading in the Common Stock shall not have been within the last 365 days suspended by the SEC or the Principal Market, and all Securities to be issued by the Company to the Investor pursuant to this Agreement shall have been approved for listing or quotation on the Principal Market in accordance with the applicable rules and regulations of the Principal Market, subject only to official notice of issuance;

(c) The Investor shall have received the opinions and negative assurances of the Company's legal counsel dated as of the Commencement Date substantially in the form heretofore agreed by the parties hereto;

(d) The representations and warranties of the Company shall be true and correct in all material respects (except to the extent that any of such representations and warranties is already qualified as to materiality in Section 4 above, in which case, the portion of such representations and warranties so qualified shall be true and correct without further qualification) as of the date hereof and as of the Commencement Date as though made at that time (except for representations and warranties that speak as of a specific date, which shall be true and correct as of such date) and the Company shall have performed, satisfied and complied with the covenants, agreements and conditions required by the Transaction Documents to be performed, satisfied or complied with by the Company at or prior to the Commencement Date. The Investor shall have received a certificate, executed by the CEO, President or CFO of the Company, dated as of the Commencement Date, to the foregoing effect in the form attached hereto as Exhibit A;

(e) The Board of Directors of the Company shall have adopted resolutions substantially in the form attached hereto as Exhibit B, which shall be in full force and effect without any amendment or supplement thereto as of the Commencement Date;

(f) As of the Commencement Date, the Company shall have reserved out of its authorized and unissued Common Stock, solely for the purpose of effecting purchases of Purchase Shares hereunder, 1,500,000 shares of Common Stock;

(g) The Irrevocable Transfer Agent Instructions shall have been delivered to and acknowledged in writing by the Company and the Company's Transfer Agent, and the Commitment Shares required to have been issued on the Commencement Date in accordance with Section 5(e) hereof shall have been issued directly to the Investor electronically as DWAC Shares;

(h) The Company shall have delivered to the Investor a certificate evidencing the incorporation and good standing of the Company in the State of Nevada issued by the Secretary of State of the State of Nevada as of a date within ten (10) Business Days of the Commencement Date;

(i) The Company shall have delivered to the Investor a certified copy of the Articles of Incorporation as certified by the Secretary of State of the State of Nevada within ten (10) Business Days of the Commencement Date;

(j) The Company shall have delivered to the Investor a secretary's certificate executed by the Secretary of the Company, dated as of the Commencement Date, in the form attached hereto as **Exhibit C**;

(k) The Registration Statement shall continue to be effective and no stop order with respect to the Registration Statement shall be pending or threatened by the SEC. The Company shall have a maximum dollar amount certain of Common Stock registered under the Registration Statement which is sufficient to issue to the Investor not less than (i) the full Available Amount worth of Purchase Shares plus (ii) all of the Commitment Shares. The Current Report and the Initial Prospectus Supplement each shall have been filed with the SEC, as required pursuant to Section 5(a) and in compliance with Registration Rights Agreement, and copies of the Prospectus shall have been delivered to the Investor in accordance with Registration Rights Agreement. The Prospectus shall be current and available for issuances and sales of all of the Securities by the Company to the Investor, and for the resale of all of the Securities by the Investor. Any other Prospectus Supplements required to have been filed by the Company with the SEC under the Securities Act at or prior to the Commencement Date shall have been filed with the SEC within the applicable time periods prescribed for such filings under the Securities Act. All reports, schedules, registrations, forms, statements, information and other documents required to have been filed by the Company with the SEC at or prior to the Commencement Date pursuant to the reporting requirements of the Exchange Act shall have been filed with the SEC within the applicable time periods prescribed for such filings under the Exchange Act;

(l) No Suspension Event has occurred, or any event which, after notice and/or lapse of time, would become a Suspension Event has occurred;

(m) All federal, state and local governmental laws, rules and regulations applicable to the transactions contemplated by the Transaction Documents and necessary for the execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby in accordance with the terms thereof shall have been complied with, and all consents, authorizations and orders of, and all filings and registrations with, all federal, state and local courts or governmental agencies and all federal, state and local regulatory or self-regulatory agencies necessary for the execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby in accordance with the terms thereof shall have been obtained or made, including, without limitation, in each case those required under the Securities Act, the Exchange Act, applicable state securities or "Blue Sky" laws or applicable rules and regulations of the Principal Market, or otherwise required by the SEC, the Principal Market or any state securities regulators;

(n) No statute, regulation, order, decree, writ, ruling or injunction shall have been enacted, entered, promulgated, threatened or endorsed by any federal, state, local or foreign court or governmental authority of competent jurisdiction which prohibits the consummation of or which would materially modify or delay any of the transactions contemplated by the Transaction Documents; and

(o) No action, suit or proceeding before any federal, state, local or foreign arbitrator or any court or governmental authority of competent jurisdiction shall have been commenced or threatened, and no inquiry or investigation by any federal, state, local or foreign governmental authority of competent jurisdiction shall have been commenced or threatened, against the Company, or any of the officers, directors or affiliates of the Company, seeking to restrain, prevent or change the transactions contemplated by the Transaction Documents, or seeking material damages in connection with such transactions.

## 9. INDEMNIFICATION.

In consideration of the Investor's execution and delivery of the Transaction Documents and acquiring the Securities hereunder and in addition to all of the Company's other obligations under the Transaction Documents, the Company shall defend, protect, indemnify and hold harmless the Investor and all of its affiliates, stockholders, members, officers, directors, employees and direct or indirect investors and any of the foregoing Person's agents or other representatives (including, without limitation, those retained in connection with the transactions contemplated by this Agreement) (collectively, the "Indemnitees") from and against any and all actions, causes of action, suits, claims, losses, costs, penalties, fees, liabilities and damages, and expenses in connection therewith (irrespective of whether any such Indemnatee is a party to the action for which indemnification hereunder is sought), and including reasonable attorneys' fees and disbursements (the "Indemnified Liabilities"), incurred by any Indemnatee as a result of, or arising out of, or relating to (a) any misrepresentation or breach of any representation or warranty made by the Company in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, (b) any breach of any covenant, agreement or obligation of the Company contained in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, or (c) any cause of action, suit or claim brought or made against such Indemnatee and arising out of or resulting from the execution, delivery, performance or enforcement of the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, other than, in the case of clause (c), with respect to Indemnified Liabilities which directly and primarily result from the fraud, gross negligence or willful misconduct of an Indemnatee. The indemnity in this Section 9 shall not apply to amounts paid in settlement of any claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld, conditioned or delayed. To the extent that the foregoing undertaking by the Company may be unenforceable for any reason, the Company shall make the maximum contribution to the payment and satisfaction of each of the Indemnified Liabilities which is permissible under applicable law. Payment under this indemnification shall be made within thirty (30) days from the date the Indemnatee makes written request for it. A certificate containing reasonable detail as to the amount of such indemnification submitted to the Company by Investor shall be conclusive evidence, absent manifest error, of the amount due from the Company to Investor. If any action shall be brought against any Indemnatee in respect of which indemnity may be sought pursuant to this Agreement, such Indemnatee shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Indemnatee. Any Indemnatee shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnatee, except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of such separate counsel, a material conflict on any material issue between the position of the Company and the position of such Indemnatee, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel.



## 10. SUSPENSION EVENTS.

A “Suspension Event” shall be deemed to have occurred at any time as any of the following events occurs:

(a) the effectiveness of the Registration Statement registering the Securities lapses for any reason (including, without limitation, the issuance of a stop order or similar order), the Registration Statement or the Prospectus is unavailable for the sale by the Company to the Investor (or the resale by the Investor) of any or all of the Securities to be issued to the Investor under the Transaction Documents (including, without limitation, as a result of any failure of the Company to satisfy all of the requirements for the use of a registration statement on Form S-3 pursuant to the Securities Act for the offering and sale of the Securities contemplated by this Agreement), and any such lapse or unavailability continues for a period of ten (10) consecutive Business Days or for more than an aggregate of thirty (30) Business Days in any 365-day period;

(b) the suspension of the Common Stock from trading or the failure of the Common Stock to be listed on the Principal Market for a period of one (1) Business Day, provided that the Company may not direct the Investor to purchase any shares of Common Stock during any such suspension;

(c) the delisting of the Common Stock from The Nasdaq Capital Market (or any nationally recognized successor thereto), provided, however, that the Common Stock is not immediately thereafter trading on The Nasdaq Global Market, The Nasdaq Global Select Market, the New York Stock Exchange, the NYSE American, the NYSE Arca, or The OTCQX Best Market or The OTCQB Venture Market operated by OTC Markets Group, Inc. (or any nationally recognized successor to any of the foregoing);

(d) the failure for any reason by the Transfer Agent to issue Purchase Shares to the Investor within two (2) Business Days after the Regular Purchase Date, Accelerated Purchase Date or Additional Accelerated Purchase Date, as applicable, on which the Investor is entitled to receive such Purchase Shares;

(e) the Company breaches any representation, warranty, covenant or other term or condition under any Transaction Document if such breach would reasonably be expected to have a Material Adverse Effect and except, in the case of a breach of a covenant which is reasonably curable, only if such breach continues for a period of at least five (5) Business Days;

(f) if any Person commences a proceeding against the Company pursuant to or within the meaning of any Bankruptcy Law;

(g) if the Company, pursuant to or within the meaning of any Bankruptcy Law, (i) commences a voluntary case, (ii) consents to the entry of an order for relief against it in an involuntary case, (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property, or (iv) makes a general assignment for the benefit of its creditors or is generally unable to pay its debts as the same become due;

(h) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that (i) is for relief against the Company in an involuntary case, (ii) appoints a Custodian of the Company or for all or substantially all of its property, or (iii) orders the liquidation of the Company or any Subsidiary;

(i) if, at any time, the Company is not eligible to transfer its Common Stock electronically as DWAC Shares;

(j) if, at any time after the Commencement Date, the Exchange Cap is reached (to the extent such Exchange Cap is applicable pursuant to Section 2(f) hereof), and the stockholder approval referred to in Section 2(f)(i) has not been obtained in accordance with the applicable rules of The Nasdaq Stock Market; or

(k) if, at any time, the Investor's broker is unable to accept shares of Common Stock, including any Commitment Shares to be issued to the Investor under Section 5(e) or any Purchase Shares to be issued to the Investor under this Agreement, for deposit for reasons not within the Investor's control.

In addition to any other rights and remedies under applicable law and this Agreement, so long as a Suspension Event has occurred and is continuing, or if any event which, after notice and/or lapse of time, would become a Suspension Event has occurred and is continuing, the Company shall not deliver to the Investor any Regular Purchase Notice, Accelerated Purchase Notice or Additional Accelerated Purchase Notice.

## 11. TERMINATION

This Agreement may be terminated only as follows:

(a) If pursuant to or within the meaning of any Bankruptcy Law, the Company commences a voluntary case or any Person commences a proceeding against the Company which is not discharged within 90 days, a Custodian is appointed for the Company or for all or substantially all of its property, or the Company makes a general assignment for the benefit of its creditors (any of which would be a Suspension Event as described in Sections 10(f), 10(g) and 10(h) hereof), this Agreement shall automatically terminate without any liability or payment to the Company (except as set forth below) without further action or notice by any Person.

(b) In the event that the Commencement shall not have occurred on or before July 15, 2025, due to the failure to satisfy the conditions set forth in Sections 7 and 8 above with respect to the Commencement, either the Company or the Investor shall have the option to terminate this Agreement at the close of business on such date or thereafter without liability of any party to any other party (except as set forth below); provided, however, that the right to terminate this Agreement under this Section 11(b) shall not be available to any party if such party is then in breach of any covenant or agreement contained in this Agreement or any representation or warranty of such party contained in this Agreement fails to be true and correct such that the conditions set forth in Section 7(c) or Section 8(d), as applicable, could not then be satisfied.

(c) At any time after the Commencement Date, the Company shall have the option to terminate this Agreement for any reason or for no reason by delivering notice (a "Company Termination Notice") to the Investor electing to terminate this Agreement without any liability whatsoever of any party to any other party under this Agreement (except as set forth below). The Company Termination Notice shall not be effective until one (1) Business Day after it has been received by the Investor.

(d) This Agreement shall automatically terminate on the date that the Company sells and the Investor purchases the full Available Amount as provided herein, without any action or notice on the part of any party and without any liability whatsoever of any party to any other party under this Agreement (except as set forth below).

(e) If, for any reason or for no reason, the full Available Amount has not been purchased in accordance with Section 2 of this Agreement by the Maturity Date, this Agreement shall automatically terminate on the Maturity Date, without any action or notice on the part of any party and without any liability whatsoever of any party to any other party under this Agreement (except as set forth below).

Except as set forth in Sections 11(a) (in respect of a Suspension Event under Sections 10(f), 10(g) and 10(h)), 11(d) and 11(e), any termination of this Agreement pursuant to this Section 11 shall be effected by written notice from the Company to the Investor, or the Investor to the Company, as the case may be, setting forth the basis for the termination hereof. The representations and warranties of the Company and the Investor contained in Sections 3 and 4 hereof, the indemnification provisions set forth in Section 9 hereof and the agreements and covenants set forth in Sections 5, 6, 10, 11 and 12 shall survive the Commencement and any termination of this Agreement. No termination of this Agreement shall (i) affect the Company's or the Investor's rights or obligations under (A) this Agreement with respect to pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases and the Company and the Investor shall complete their respective obligations with respect to any pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases under this Agreement and (B) the Registration Rights Agreement, which shall survive any such termination in accordance with its terms, or (ii) be deemed to release the Company or the Investor from any liability for intentional misrepresentation or willful breach of any of the Transaction Documents.

## 12. MISCELLANEOUS.

(a) Governing Law; Jurisdiction; Jury Trial. The corporate laws of the State of Nevada shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Agreement and the other Transaction Documents shall be governed by the internal laws of the State of Illinois, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Illinois or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Illinois. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the State of Illinois, County of Cook, for the adjudication of any dispute hereunder or under the other Transaction Documents or in connection herewith or therewith, or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HERewith OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(b) Counterparts. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party; provided that a facsimile signature or signature delivered by e-mail in a ".pdf" format data file, including any electronic signature complying with the U.S. federal E-SIGN Act of 2000, e.g., [www.docusign.com](http://www.docusign.com), [www.echosign.adobe.com](http://www.echosign.adobe.com), etc., shall be considered due execution and shall be binding upon the signatory thereto with the same force and effect as if the signature were an original signature.

(c) Headings. The headings of this Agreement are for convenience of reference and shall not form part of, or affect the interpretation of, this Agreement.

(d) Severability. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement in that jurisdiction or the validity or enforceability of any provision of this Agreement in any other jurisdiction.

(e) Entire Agreement. The Transaction Documents supersede all other prior oral or written agreements between the Investor, the Company, their affiliates and Persons acting on their behalf with respect to the subject matter thereof, and this Agreement, the other Transaction Documents and the instruments referenced herein contain the entire understanding of the parties with respect to the matters covered herein and therein and, except as specifically set forth herein or therein, neither the Company nor the Investor makes any representation, warranty, covenant or undertaking with respect to such matters. The Company acknowledges and agrees that it has not relied on, in any manner whatsoever, any representations or statements, written or oral, other than as expressly set forth in the Transaction Documents.

(f) Notices. Any notices, consents or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt when delivered personally; (ii) upon receipt when sent by facsimile or email (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses for such communications shall be:

If to the Company:

Tonix Pharmaceuticals Holding Corp.  
26 Main Street, Suite 101  
Chatham, NJ 07928  
Telephone: (862) 904-8182  
E-mail: seth.lederman@tonixpharma.com  
Attention: Seth Lederman, MD  
President and Chief Executive Officer

With a copy to (which shall not constitute notice or service of process):

Lowenstein Sandler LLP  
One Lowenstein Drive  
Roseland, NJ 07068  
Telephone: (973) 597-2900  
Facsimile: (973) 597-2400  
E-mail: sskolnick@lowenstein.com  
Attention: Steven M. Skolnick, Esq.

If to the Investor:

Lincoln Park Capital Fund, LLC  
415 N. LaSalle Drive, Suite 700B  
Chicago, IL 60654  
Telephone: (312) 822-9300  
Facsimile: (312) 822-9301  
E-mail: jscheinfeld@lpcfunds.com/jcope@lpcfunds.com  
Attention: Joshua Scheinfeld/Jonathan Cope

With a copy to (which shall not constitute notice or service of process):

Reed Smith LLP  
599 Lexington Avenue  
New York, NY 10022  
Telephone: (212) 549-0285  
Facsimile: (212) 521-5450  
E-mail: amarsico@reedsmith.com  
Attention: Anthony J. Marsico, Esq.

If to the Transfer Agent:  
vStock Transfer, LLC  
18 Lafayette Place  
Woodmere, NY 11598  
Telephone: (212) 828-8436  
Facsimile: (646) 536-3179  
E-mail: info@vstocktransfer.com  
Attention: Yoel Goldfeder

or at such other address, email address and/or facsimile number and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party three (3) Business Days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or email account containing the time, date, and recipient facsimile number or email address, as applicable, and an image of the first page of such transmission or (C) provided by a nationally recognized overnight delivery service, shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(g) Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and any permitted successors and assigns of the Company. The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Investor, including by merger or consolidation. The Investor may not assign its rights or obligations under this Agreement.

(h) No Third Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and any permitted successors and assigns of the Company and, except as set forth in Section 9, is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

(i) Publicity. The Company shall afford the Investor and its counsel with the opportunity to review and comment upon, shall consult with the Investor and its counsel on the form and substance of, and shall give due consideration to all such comments from the Investor or its counsel on, any press release, SEC filing or any other public disclosure by or on behalf of the Company relating to the Investor, its purchases hereunder or any aspect of the Securities, the Transaction Documents or the transactions contemplated thereby, not less than 24 hours prior to the issuance, filing or public disclosure thereof. The Investor must be provided with a final version of any such press release, SEC filing or other public disclosure at least 24 hours prior to any release, filing or use by the Company thereof. The Company agrees and acknowledges that its failure to fully comply with this provision constitutes a Material Adverse Effect.

(j) Further Assurances. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to consummate and make effective, as soon as reasonably possible, the Commencement, and to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(k) No Financial Advisor, Placement Agent, Broker or Finder. The Company represents and warrants to the Investor that it has not engaged any financial advisor, placement agent, broker or finder in connection with the transactions contemplated hereby. The Investor represents and warrants to the Company that it has not engaged any financial advisor, placement agent, broker or finder in connection with the transactions contemplated hereby. The Company shall be responsible for the payment of any fees or commissions, if any, of any financial advisor, placement agent, broker or finder relating to or arising out of the transactions contemplated hereby. The Company shall pay, and hold the Investor harmless against, any liability, loss or expense (including, without limitation, attorneys' fees and out of pocket expenses) arising in connection with any such claim.

(l) No Strict Construction. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

(m) Remedies, Other Obligations, Breaches and Injunctive Relief. The Investor's remedies provided in this Agreement, including, without limitation, the Investor's remedies provided in Section 9, shall be cumulative and in addition to all other remedies available to the Investor under this Agreement, at law or in equity (including a decree of specific performance and/or other injunctive relief), no remedy of the Investor contained herein shall be deemed a waiver of compliance with the provisions giving rise to such remedy and nothing herein shall limit the Investor's right to pursue actual damages for any failure by the Company to comply with the terms of this Agreement. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Investor and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the Investor shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

(n) Enforcement Costs. If: (i) this Agreement is placed by the Investor in the hands of an attorney for enforcement or is enforced by the Investor through any legal proceeding; (ii) an attorney is retained to represent the Investor in any bankruptcy, reorganization, receivership or other proceedings affecting creditors' rights and involving a claim under this Agreement; or (iii) an attorney is retained to represent the Investor in any other proceedings whatsoever in connection with this Agreement, then the Company shall pay to the Investor, as incurred by the Investor, all reasonable costs and expenses including attorneys' fees incurred in connection therewith, in addition to all other amounts due hereunder. If this Agreement is placed by the Company in the hands of an attorney for enforcement or is enforced by the Company through any legal proceeding, then the Investor shall pay to the Company, as incurred by the Company, all reasonable costs and expenses, including attorneys' fees incurred in connection therewith, in addition to all other amounts due hereunder.

(o) Amendment; Waiver; Failure or Indulgence Not Waiver. No provision of this Agreement may be amended other than by a written instrument signed by both parties hereto. No provision of this Agreement may be waived other than in a written instrument signed by the party against whom enforcement of such waiver is sought. No failure or delay in the exercise of any power, right or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such power, right or privilege preclude other or further exercise thereof or of any other right, power or privilege.

*\*\* Signature Page Follows \*\**

IN WITNESS WHEREOF, the Investor and the Company have caused this Agreement to be duly executed as of the date first written above.

**THE COMPANY:**

**TONIX PHARMACEUTICALS HOLDING CORP.**

By: /s/ Seth Lederman

Name: Seth Lederman, MD

Title: President and Chief Executive Officer

**INVESTOR:**

**LINCOLN PARK CAPITAL FUND, LLC**

**BY: LINCOLN PARK CAPITAL, LLC**

**BY: ROCKLEDGE CAPITAL CORPORATION**

By: /s/ Joshua Scheinfeld

Name: Joshua Scheinfeld

Title: President

**EXHIBITS**

Exhibit A	Form of Officer's Certificate
Exhibit B	Form of Resolutions of Board of Directors of the Company
Exhibit C	Form of Secretary's Certificate

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## REGISTRATION RIGHTS AGREEMENT

**REGISTRATION RIGHTS AGREEMENT** (this “Agreement”), dated as of June 11, 2025, by and between **TONIX PHARMACEUTICALS HOLDING CORP.**, a Nevada corporation (the “Company”), and **LINCOLN PARK CAPITAL FUND, LLC**, an Illinois limited liability company (together with its permitted assigns, the “Investor”). Capitalized terms used herein and not otherwise defined herein shall have the respective meanings set forth in the Purchase Agreement by and between the parties hereto, dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time, the “Purchase Agreement”).

### WHEREAS:

A. Upon the terms and subject to the conditions of the Purchase Agreement, (i) the Company has agreed to issue to the Investor, and the Investor has agreed to purchase, up to Seventy-Five Million Dollars (\$75,000,000) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), pursuant to the Purchase Agreement (such shares, the “Purchase Shares”), and (ii) the Company has agreed to issue to the Investor 61,828 shares of Common Stock (the “Commitment Shares”) upon the execution of the Purchase Agreement as set forth in Section 5(c) of the Purchase Agreement; and

B. To induce the Investor to enter into the Purchase Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the “Securities Act”), and applicable state securities laws.

**NOW, THEREFORE**, in consideration of the promises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and the Investor hereby agree as follows:

#### 1. DEFINITIONS.

As used in this Agreement, the following terms shall have the following meanings:

(a) “Base Prospectus” means the Company’s final base prospectus, dated September 30, 2024, a preliminary form of which is included in the Registration Statement (defined below), including the documents and information incorporated by reference therein.

(b) “Initial Prospectus Supplement” means the prospectus supplement of the Company dated June 11, 2025 relating to the Securities, including the accompanying Base Prospectus, to be prepared and filed by the Company with the SEC pursuant to Rule 424(b) under the Securities Act and in accordance herewith, together with all documents and information incorporated therein by reference.

(c) “Prospectus” means the Base Prospectus, as supplemented by any Prospectus Supplement (including the Initial Prospectus Supplement), including the documents and information incorporated by reference therein.

(d) “Prospectus Supplement” means any prospectus supplement to the Base Prospectus (including the Initial Prospectus Supplement) filed with the SEC pursuant to Rule 424(b) under the Securities Act in connection with the transactions contemplated by this Agreement, including the documents and information incorporated by reference therein.

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(e) “Register,” “Registered,” and “Registration” refer to a registration effected by preparing and filing one or more registration statements of the Company in compliance with the Securities Act and pursuant to Rule 415 under the Securities Act or any successor rule providing for offering securities on a continuous basis (“Rule 415”), and the declaration or ordering of effectiveness of such registration statement(s) by the SEC.

(f) “Registrable Securities” means the Purchase Shares that may from time to time be issued or issuable to the Investor upon purchases of the Available Amount under the Purchase Agreement (without regard to any limitation or restriction on purchases), the Commitment Shares issued or issuable to the Investor, and any shares of capital stock issued or issuable with respect to the Purchase Shares, the Commitment Shares or the Purchase Agreement as a result of any stock split, stock dividend, recapitalization, exchange or similar event, without regard to any limitation on purchases under the Purchase Agreement.

(g) “Registration Statement” means the effective registration statement on Form S-3 (Commission File No. 333-282270) filed by the Company with the SEC pursuant to the Securities Act for the registration of shares of its Common Stock, including the Securities, and certain other securities of the Company, as such Registration Statement has been or may be amended and supplemented from time to time, including the financial statements, exhibits and schedules thereto, and all other documents filed as part thereof or incorporated by reference therein, and including all information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430B of the Securities Act, including (i) any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the transactions contemplated by the Transaction Documents and (ii) any comparable successor registration statement filed by the Company with the SEC pursuant to the Securities Act for the registration of shares of its Common Stock, including the Securities.

## 2. REGISTRATION.

(a) Initial Prospectus Supplement. The Company agrees that it shall, on the date hereof, file with the SEC the Initial Prospectus Supplement pursuant to Rule 424(b) under the Securities Act, in the form agreed upon by the Investor prior to such filing, specifically relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents, providing for the offer and sale of a total amount of Common Stock thereunder equal to the sum of (i) the full Available Amount worth of Purchase Shares and (ii) all of the Commitment Shares, containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430B under the Securities Act, and disclosing all information relating to the transactions contemplated by the Transaction Documents required to be disclosed in the Registration Statement and the Prospectus as of the date of the Initial Prospectus Supplement, including, without limitation, information required to be disclosed in the section captioned “Plan of Distribution” in the Prospectus. The Investor acknowledges that it will be identified in the Initial Prospectus Supplement as an underwriter within the meaning of Section 2(a)(11) of the Securities Act. The Company shall permit the Investor and its counsel to review and comment upon a substantially complete pre-filing draft of the Initial Prospectus Supplement at least one (1) Business Day prior to the date of its filing with the SEC, the Company shall give due consideration to all such comments, and the Company shall not file the Initial Prospectus Supplement with the SEC in a form to which the Investor reasonably objects. The Investor shall use its reasonable best efforts to comment upon such substantially complete pre-filing draft of the Initial Prospectus Supplement within one (1) Business Day from the date the Investor receives such substantially complete pre-filing draft thereof from the Company. The Investor shall furnish to the Company such information regarding itself, the Securities held by it and the intended method of distribution thereof, including any arrangement between the Investor and any other Person relating to the sale or distribution of the Securities, as shall be reasonably requested by the Company in connection with the preparation and filing of the Initial Prospectus Supplement, and shall otherwise cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Initial Prospectus Supplement with the SEC.

(b) Effective Registration Statement; Current Prospectus; Securities Law Compliance. The Company shall use its reasonable best efforts to keep the Registration Statement effective pursuant to Rule 415 promulgated under the Securities Act, and to keep the Registration Statement and the Prospectus current and available for issuances and sales of all of the Securities by the Company to the Investor, and for the resale by the Investor, at all times until the earliest of (i) the date on which the Investor shall have sold all the Securities and no Available Amount remains under the Purchase Agreement, (ii) thirty (30) days following the Maturity Date and (iii) ninety (90) days following the termination of the Purchase Agreement in accordance with Section 11 of the Purchase Agreement (the “Registration Period”). Without limiting the generality of the foregoing, during the Registration Period, the Company shall (a) take all action necessary to continue to be required to file reports with the Commission pursuant to Section 13 or 15(d) of the Exchange Act, shall comply with its reporting and filing obligations under the Exchange Act, and shall not take any action or file any document (whether or not permitted by the Exchange Act) to terminate or suspend its reporting and filing obligations under the Exchange Act and (b) prepare and file with the SEC, at the Company’s expense, such amendments (including, without limitation, post-effective amendments) to the Registration Statement and such Prospectus Supplements pursuant to Rule 424(b) under the Securities Act, in each case, as may be necessary to keep the Registration Statement effective pursuant to Rule 415 promulgated under the Securities Act, and to keep the Registration Statement and the Prospectus current and available for issuances and sales of all of the Securities by the Company to the Investor, and for the resale of all of the Securities by the Investor, at all times during the Registration Period (it being hereby acknowledged and agreed that the Company shall prepare and file with the SEC, at the Company’s expense, immediately prior to the third (3<sup>rd</sup>) anniversary of the initial effective date of the Registration Statement (the “Renewal Date”), a new Registration Statement relating to the Securities, in a form satisfactory to the Investor and its counsel, and the Company shall use its reasonable best efforts to cause such Registration Statement to be declared effective within 180 days after the Renewal Date). Without limiting the generality of the foregoing, to the extent required under the Securities Act or under interpretations by the SEC thereof, as promptly as practicable after the close of each of the Company’s fiscal quarters (or on such other dates as required under the Securities Act or under interpretations by the SEC thereof), the Company shall prepare a Prospectus Supplement, which will set forth the number of Purchase Shares sold to the Investor during such quarterly period (or other relevant period), the purchase price for such Purchase Shares and the net proceeds received by the Company from such sales, and shall file such Prospectus Supplement with the SEC pursuant to Rule 424(b) under the Securities Act (and within the time periods required by Rule 424(b) and Rule 430B under the Securities Act); provided, however, that if any such quarterly Prospectus Supplement is not required to be filed under the Securities Act or under interpretations by the SEC thereof, the Company shall disclose the information referenced in the immediately preceding sentence in its annual report on Form 10-K or its quarterly report on Form 10-Q (as applicable) in respect of the quarterly period that ended immediately before the filing of such report in which sales of Purchase Shares were made to the Investor under the Purchase Agreement, and file such report with the SEC within the applicable time period required by the Exchange Act. The Investor shall furnish to the Company such information regarding itself, the Securities held by it and the intended method of distribution thereof as shall be reasonably requested by the Company in connection with the preparation and filing of any such amendment to the Registration Statement (or new Registration Statement) or any such Prospectus Supplement, and shall otherwise cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any such amendment to the Registration Statement (or new Registration Statement) or any such Prospectus Supplement. The Company shall comply with all applicable federal, state and foreign securities laws in connection with the offer, issuance and sale of the Securities contemplated by the Transaction Documents.

3. **RELATED OBLIGATIONS.**

With respect to the Registration Statement and the Prospectus, the Company shall use its reasonable best efforts to effect the registration of the Registrable Securities in accordance with the intended method of disposition thereof and, pursuant thereto, the Company shall have the following obligations:

(a) Stop Orders. The Company shall advise the Investor promptly (but in no event later than 24 hours) and shall confirm such advice in writing: (i) of the Company's receipt of notice of any request by the SEC for amendment of or a supplement to the Registration Statement, the Prospectus, any Prospectus Supplement or for any additional information; (ii) of the Company's receipt of notice of the issuance by the SEC of any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or any Prospectus Supplement, or of the Company's receipt of any notification of the suspension of qualification of the Securities for offering or sale in any jurisdiction or the initiation or contemplated initiation of any proceeding for such purpose; and (iii) of the Company becoming aware of the happening of any event, which makes any statement of a material fact made in the Registration Statement, the Prospectus or any Prospectus Supplement untrue or which requires the making of any additions to or changes to the statements then made in the Registration Statement, the Prospectus or any Prospectus Supplement in order to state a material fact required by the Securities Act to be stated therein or necessary in order to make the statements then made therein (in the case of the Prospectus or any Prospectus Supplement, in light of the circumstances under which they were made) not misleading, or of the necessity to amend the Registration Statement or supplement the Prospectus or any Prospectus Supplement to comply with the Securities Act or any other applicable laws. The Company shall not be required to disclose to the Investor the substance or specific reasons of any of the events set forth in clauses (i) through (iii) of the immediately preceding sentence, but rather, shall only be required to disclose that the event has occurred. The Company shall not deliver to the Investor any Regular Purchase Notice, Accelerated Purchase Notice or Additional Accelerated Purchase Notice, and the Investor shall not be obligated to purchase any shares of Common Stock under the Purchase Agreement, during the continuation or pendency of any of the foregoing events; provided, however, that the foregoing shall not affect the Company's or the Investor's rights or obligations under the Purchase Agreement with respect to any then pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, and the Company and the Investor shall complete their respective obligations with respect to any such pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases under the Purchase Agreement. If at any time the SEC shall issue any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or any Prospectus Supplement, the Company shall use its reasonable best efforts to obtain the withdrawal of such order at the earliest possible time. The Company shall furnish to the Investor, without charge, a copy of any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to the Registration Statement or the Prospectus, as the case may be.

(b) Investor Review. Except as provided in this Agreement and other than periodic and current reports required to be filed pursuant to the Exchange Act, the Company shall not file with the SEC any amendment to the Registration Statement or any supplement to the Prospectus that refers to the Investor, the Transaction Documents or the transactions contemplated thereby (including, without limitation, any Prospectus Supplement filed in connection with the transactions contemplated by the Transaction Documents), in each case with respect to which (a) the Investor shall not previously have been advised and afforded the opportunity to review and comment thereon at least one (1) Business Day prior to filing with the SEC, as the case may be, (b) the Company shall not have given due consideration to any comments thereon received from the Investor or its counsel, or (c) the Investor shall reasonably object, unless the Company reasonably has determined that it is necessary to amend the Registration Statement or make any supplement to the Prospectus to comply with the Securities Act or any other applicable law or regulation, in which case the Company shall promptly (but in no event later than 24 hours) so inform the Investor, the Investor shall be provided with a reasonable opportunity to review and comment upon any disclosure referring to the Investor, the Transaction Documents or the transactions contemplated thereby, as applicable, and the Company shall expeditiously furnish to the Investor a copy thereof. In addition, for so long as, in the reasonable opinion of counsel for the Investor, the Prospectus is required to be delivered in connection with any acquisition or sale of Securities by the Investor, the Company shall not file any Prospectus Supplement with respect to the Securities without furnishing to the Investor as many copies of such Prospectus Supplement, together with the Prospectus, as the Investor may reasonably request.

(c) Prospectus Delivery. The Company consents to the use of the Prospectus (and of each Prospectus Supplement thereto) in accordance with the provisions of the Securities Act and with the securities or “blue sky” laws of the jurisdictions in which the Securities may be sold by the Investor, in connection with the offering and sale of the Securities and for such period of time thereafter as the Prospectus is required by the Securities Act to be delivered in connection with sales of the Securities. The Company will make available to the Investor upon request, and thereafter from time to time will furnish to the Investor, as many copies of the Prospectus (and each Prospectus Supplement thereto) as the Investor may reasonably request for the purposes contemplated by the Securities Act within the time during which the Prospectus is required by the Securities Act to be delivered in connection with sales of the Securities. If during such period of time any event shall occur that in the reasonable judgment of the Company and its counsel, or in the reasonable judgment of the Investor and its counsel, is required to be set forth in the Registration Statement, the Prospectus or any Prospectus Supplement or should be set forth therein in order to make the statements made therein (in the case of the Prospectus or any Prospectus Supplement, in light of the circumstances under which they were made) not misleading, or if in the reasonable judgment of the Company and its counsel, or in the reasonable judgment of the Investor and its counsel, it is otherwise necessary to amend the Registration Statement or supplement the Prospectus or any Prospectus Supplement to comply with the Securities Act or any other applicable law or regulation, the Company shall forthwith prepare and, subject to Section 3(b) above, file with the SEC an appropriate amendment to the Registration Statement or an appropriate Prospectus Supplement and in each case shall expeditiously furnish to the Investor, at the Company’s expense, such amendment to the Registration Statement or such Prospectus Supplement, as applicable, as may be necessary to reflect any such change or to effect such compliance. The Company shall have no obligation to separately advise the Investor of, or deliver copies to the Investor of, the SEC Documents, all of which the Investor shall be deemed to have notice of.

(i) Delivery of Shares. The Company shall cooperate with the Investor to facilitate the timely preparation and delivery of DWAC Shares (not bearing any restrictive legend) representing the Registrable Securities to be offered pursuant to the Registration Statement and the Prospectus and enable such DWAC Shares to be in such denominations or amounts as the Investor may reasonably request and registered in such names as the Investor may request

(j) Transfer Agent. The Company shall at all times maintain the services of the Transfer Agent with respect to its Common Stock.

(k) Approvals. The Company shall use its reasonable best efforts to cause the Registrable Securities covered by any Registration Statement to be Registered with or approved by such other governmental agencies or authorities in the United States as may be necessary to consummate the disposition of such Registrable Securities.

(l) Confirmation of Effectiveness. If reasonably requested in writing by the Investor at any time, the Company shall deliver to the Investor a written confirmation from Company’s counsel of whether or not the effectiveness of such Registration Statement has lapsed at any time for any reason (including, without limitation, the issuance of a stop order) and whether or not the Registration Statement is currently effective and available to the Company for sale of all of the Registrable Securities..

(m) Further Assurances. The Company agrees to take all other reasonable actions as necessary and reasonably requested in writing by the Investor to expedite and facilitate disposition by the Investor of Registrable Securities pursuant to any Registration Statement.

(n) Transfer Agent Instructions. On or before the date the Initial Prospectus Supplement is filed with the SEC, the Company shall issue to the Transfer Agent the Irrevocable Transfer Agent Instructions in the form agreed to prior to the date hereof, and on the date any Registration Statement which includes the Registrable Securities is ordered effective by the SEC, the Company shall deliver, and shall cause legal counsel for the Company to deliver, to the Transfer Agent for such Registrable Securities (with copies to the Investor) confirmation that such Registration Statement has been declared effective by the SEC. Thereafter, if requested by the Investor at any time, the Company shall require its legal counsel to deliver to the Investor a written confirmation whether or not the effectiveness of such Registration Statement has lapsed at any time for any reason (including, without limitation, the issuance of a stop order) and whether or not the Registration Statement is current and available to the Investor for sale of all of the Registrable Securities.

#### 4. OBLIGATIONS OF THE INVESTOR.

(a) Investor Information. The Investor has furnished to the Company in Exhibit A hereto such information regarding itself, the Registrable Securities held by it, the Registrable Securities held by it and the intended method of disposition thereof, including any arrangement between the Investor and any other Person relating to the sale or distribution of the Securities, as required to effect the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request. The Company shall notify the Investor in writing of any other information the Company reasonably requires from the Investor in connection with any Registration Statement hereunder. The Investor will as promptly as practicable notify the Company of any material change in the information set forth in Exhibit A, other than changes in its ownership of Common Stock.

(b) Suspension of Sales. The Investor agrees that, upon receipt of any notice from the Company of the existence of any suspension or stop order as set forth in Section 3(a), the Investor will immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement covering such Registrable Securities until the Investor's receipt of the copies of a notice regarding the resolution or withdrawal of the suspension or stop order as contemplated by Section 3(a). Notwithstanding anything to the contrary, the Company shall cause its transfer agent to promptly deliver to the Investor DWAC Shares without any restrictive legend in accordance with the terms of the Purchase Agreement in connection with any sale of Registrable Securities with respect to which the Investor has entered into a contract for sale prior to the Investor's receipt of a notice from the Company of the happening of any event of the kind described in Section 3(a) and for which the Investor has not yet settled.

(c) Investor Cooperation. The Investor agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any amendments and supplements to any Registration Statement or the Prospectus hereunder.

#### 5. EXPENSES OF REGISTRATION.

All reasonable expenses of the Company, other than sales or brokerage commissions and fees and disbursements of counsel for, and other expenses of, the Investor, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualifications fees, printers and accounting fees, and fees and disbursements of counsel for the Company, shall be paid by the Company.

6. INDEMNIFICATION.

(a) To the fullest extent permitted by law, the Company will, and hereby does, indemnify, hold harmless and defend the Investor, each Person, if any, who controls the Investor, the members, the directors, officers, partners, employees, agents, representatives of the Investor and each Person, if any, who controls the Investor within the meaning of the Securities Act or the Securities Exchange Act of 1934, as amended (the “Exchange Act”) (each, an “Indemnified Person”), against any losses, claims, damages, liabilities, judgments, fines, penalties, charges, costs, attorneys’ fees, amounts paid in settlement or expenses, joint or several, (collectively, “Claims”) incurred in investigating, preparing or defending any action, claim, suit, inquiry, proceeding, investigation or appeal taken from the foregoing by or before any court or governmental, administrative or other regulatory agency, body or the SEC, whether pending or threatened, whether or not an indemnified party is or may be a party thereto (“Indemnified Damages”), to which any of them may become subject insofar as such Claims (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact contained, or incorporated by reference, in the Registration Statement or any amendment thereto or any omission or alleged omission to state therein, or in any document incorporated by reference therein, a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained, or incorporated by reference, in the Prospectus or any Prospectus Supplement, or any omission or alleged omission to state therein, or in any document incorporated by reference therein, a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, or (iii) any violation or alleged violation by the Company or any of its Subsidiaries, affiliates, officers, directors or employees, of the Securities Act, the Exchange Act, state securities or “Blue Sky” laws, or the rules and regulations of the Principal Market relating to the offer or sale of the Registrable Securities pursuant to the Registration Statement or the Prospectus (the matters in the foregoing clauses (i) through (iii) being, collectively, “Violations”). The Company shall reimburse each Indemnified Person promptly as such expenses are incurred and are due and payable, for any reasonable out-of-pocket legal fees or other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6(a): (A) shall not apply to a Claim by an Indemnified Person to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by or on behalf of the Investor expressly for use in any Prospectus Supplement (it being hereby acknowledged and agreed that the written information set forth on Exhibit A attached hereto, as the same may be updated from time to time in writing by the Investor, is the only written information furnished to the Company by or on behalf of the Investor expressly for use in any Prospectus Supplement), if the Prospectus was timely made available by the Company to the Investor pursuant to Section 3(c); (B) shall not be available to the extent such Claim is based on a failure of the Investor to deliver, or to cause to be delivered, the Prospectus made available by the Company, if such Prospectus was theretofore made available by the Company pursuant to Section 3(c), and if delivery of the Prospectus would have cured the defect giving rise to such Claim; and (C) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld, delayed or conditioned. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Investor pursuant to Section 8.

(b) In connection with any Prospectus Supplement, the Investor agrees to indemnify, hold harmless and defend, to the same extent and in the same manner as is set forth in Section 6(a), the Company, each of its directors, each of its officers who signed the Registration Statement, and each Person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act (collectively and together with an Indemnified Person, an “Indemnified Party”), against any Claim or Indemnified Damages to which any of them may become subject, under the Securities Act, the Exchange Act or otherwise, insofar as such Claim or Indemnified Damages arise out of or are based upon any Violation, in each case to the extent, and only to the extent, that such Violation occurs in reliance upon and in conformity with written information about the Investor set forth on Exhibit A attached hereto (as the same may be updated from time to time in writing by the Investor) and furnished to the Company by the Investor expressly for inclusion any Prospectus Supplement; and, subject to Section 6(d), the Investor will reimburse any reasonable out-of-pocket legal or other expenses reasonably incurred by them in connection with investigating or defending any such Claim; provided, however, that the indemnity agreement contained in this Section 6(b) and the agreement with respect to contribution contained in Section 7 shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Investor, which consent shall not be unreasonably withheld, delayed or conditioned; and provided, further, that the Investor shall be liable under this Section 6(b) for only that amount of a Claim or Indemnified Damages as does not exceed the net proceeds to the Investor as a result of the sale of Registrable Securities pursuant to such Registration Statement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Indemnified Party and shall survive the transfer of the Registrable Securities by the Investor pursuant to Section 8.

(c) Promptly after receipt by an Indemnified Person or Indemnified Party under this Section 6 of notice of the commencement of any action or proceeding (including any governmental action or proceeding) involving a Claim, such Indemnified Person or Indemnified Party shall, if a Claim in respect thereof is to be made against any indemnifying party under this Section 6, deliver to the indemnifying party a written notice of the commencement thereof, and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume control of the defense thereof with counsel mutually satisfactory to the indemnifying party and the Indemnified Person or the Indemnified Party, as the case may be; provided, however, that an Indemnified Person or Indemnified Party shall have the right to retain its own counsel with the fees and expenses to be paid by the indemnifying party, if, in the reasonable opinion of counsel retained by the indemnifying party, the representation by such counsel of the Indemnified Person or Indemnified Party and the indemnifying party would be inappropriate due to actual or potential differing interests between such Indemnified Person or Indemnified Party and any other party represented by such counsel in such proceeding. The Indemnified Party or Indemnified Person shall cooperate with the indemnifying party in connection with any negotiation or defense of any such action or claim by the indemnifying party and shall furnish to the indemnifying party all information reasonably available to the Indemnified Party or Indemnified Person which relates to such action or claim. The indemnifying party shall keep the Indemnified Party or Indemnified Person fully apprised as to the status of the defense or any settlement negotiations with respect thereto. No indemnifying party shall be liable for any settlement of any action, claim or proceeding effected without its written consent, provided, however, that the indemnifying party shall not unreasonably withhold, delay or condition its consent. No indemnifying party shall, without the consent of the Indemnified Party or Indemnified Person, consent to entry of any judgment or enter into any settlement or other compromise which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party or Indemnified Person of a release from all liability in respect to such claim or litigation. Following indemnification as provided for hereunder, the indemnifying party shall be subrogated to all rights of the Indemnified Party or Indemnified Person with respect to all third parties, firms or corporations relating to the matter for which indemnification has been made. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action shall not relieve such indemnifying party of any liability to the Indemnified Person or Indemnified Party under this Section 6, except to the extent that the indemnifying party is prejudiced in its ability to defend such action.



(d) The indemnification required by this Section 6 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or Indemnified Damages are incurred. Any Person receiving a payment pursuant to this Section 6 which person is later determined to not be entitled to such payment shall return such payment to the person making it.

(e) The indemnity agreements contained herein shall be in addition to (i) any cause of action or similar right of the Indemnified Party or Indemnified Person against the indemnifying party or others, and (ii) any liabilities the indemnifying party may be subject to pursuant to the law.

7. CONTRIBUTION.

To the extent any indemnification by an indemnifying party is prohibited or limited by law, the indemnifying party agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 6 to the fullest extent permitted by law; provided, however, that: (i) no seller of Registrable Securities guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any seller of Registrable Securities who was not guilty of fraudulent misrepresentation; and (ii) contribution by any seller of Registrable Securities shall be limited in amount to the net amount of proceeds received by such seller from the sale of such Registrable Securities.

8. ASSIGNMENT OF REGISTRATION RIGHTS.

The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Investor; provided, however, that any transaction, whether by merger, reorganization, restructuring, consolidation, financing or otherwise, whereby the Company remains the surviving entity immediately after such transaction shall not be deemed an assignment. The Investor may not assign its rights under this Agreement without the prior written consent of the Company, other than to an affiliate of the Investor controlled by Jonathan Cope or Joshua Scheinfeld, in which case the assignee must agree in writing to be bound by the terms and conditions of this Agreement.

9. AMENDMENT OR WAIVER OF REGISTRATION RIGHTS.

No provision of this Agreement may be (i) amended other than by a written instrument signed by both parties hereto or (ii) waived other than in a written instrument signed by the party against whom enforcement of such waiver is sought. Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

10. MISCELLANEOUS.

(a) Holder. A Person is deemed to be a holder of Registrable Securities whenever such Person owns or is deemed to own of record such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two or more Persons with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from the registered owner of such Registrable Securities.

(b) Notices. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile or email (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one (1) Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses for such communications shall be:

If to the Company:

Tonix Pharmaceuticals Holding Corp.  
26 Main Street, Suite 101  
Chatham, NJ 07928  
Telephone: (862) 904-8182  
E-mail: seth.lederman@tonixpharma.com  
Attention: Seth Lederman, MD  
President and Chief Executive Officer

With a copy to (which shall not constitute notice or service of process):

Lowenstein Sandler LLP  
One Lowenstein Drive  
Roseland, NJ 07068  
Telephone: (973) 597-2900  
Facsimile: (973) 597-2400  
E-mail: sskolnick@lowenstein.com  
Attention: Steven M. Skolnick, Esq.

If to the Investor:

Lincoln Park Capital Fund, LLC  
415 N. LaSalle Drive, Suite 700B  
Chicago, IL 60654  
Telephone: (312) 822-9300  
Facsimile: (312) 822-9301  
E-mail: jscheinfeld@lpcfunds.com/jcope@lpcfunds.com  
Attention: Joshua Scheinfeld/Jonathan Cope

With a copy to (which shall not constitute notice or service of process):

Reed Smith LLP  
599 Lexington Avenue  
New York, NY 10022  
Telephone: (212) 549-0285  
Facsimile: (212) 521-5450  
E-mail: amarsico@reedsmith.com  
Attention: Anthony J. Marsico, Esq.

or at such other address, email address and/or facsimile number and/or to the attention of such other person as the recipient party has specified by written notice given to each other party three (3) Business Days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or email account containing the time, date, recipient facsimile number or email address, as applicable, and an image of the first page of such transmission or (C) provided by a nationally recognized overnight delivery service, shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(c) Governing Law. The corporate laws of the State of Nevada shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of Illinois, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Illinois or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Illinois. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting the State of Illinois, County of Cook, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement in that jurisdiction or the validity or enforceability of any provision of this Agreement in any other jurisdiction. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HERewith OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(d) Integration. This Agreement, the Purchase Agreement and the other Transaction Documents constitute the entire understanding among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement, the Purchase Agreement and the other Transaction Documents supersede all other prior oral or written agreements between the Investor, the Company, their affiliates and persons acting on their behalf with respect to the subject matter hereof and thereof.

(e) No Third Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and any permitted successors and assigns of the Company and, except as set forth in Section 9, is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

(f) Headings. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(g) Counterparts. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party; provided that a facsimile signature or signature delivered by e-mail in a “.pdf” format data file, including any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., [www.docusign.com](http://www.docusign.com), [www.echosign.adobe.com](http://www.echosign.adobe.com), etc., shall be considered due execution and shall be binding upon the signatory thereto with the same force and effect as if the signature were an original signature.

(h) Further Assurances. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(i) No Strict Construction. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent and no rules of strict construction will be applied against any party.

*\*\* Signature Page Follows \*\**

IN WITNESS WHEREOF, the parties have caused this Registration Rights Agreement to be duly executed as of day and year first above written.

**THE COMPANY:**

**TONIX PHARMACEUTICALS HOLDING CORP.**

By: /s/ Seth Lederman  
Name: Seth Lederman, MD  
Title: President and Chief Executive Officer

**INVESTOR:**

**LINCOLN PARK CAPITAL FUND, LLC**

**BY: LINCOLN PARK CAPITAL, LLC**

**BY: ROCKLEDGE CAPITAL CORPORATION**

By: /s/ Josh Scheinfeld  
Name: Josh Scheinfeld  
Title: President

EXHIBIT A

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